

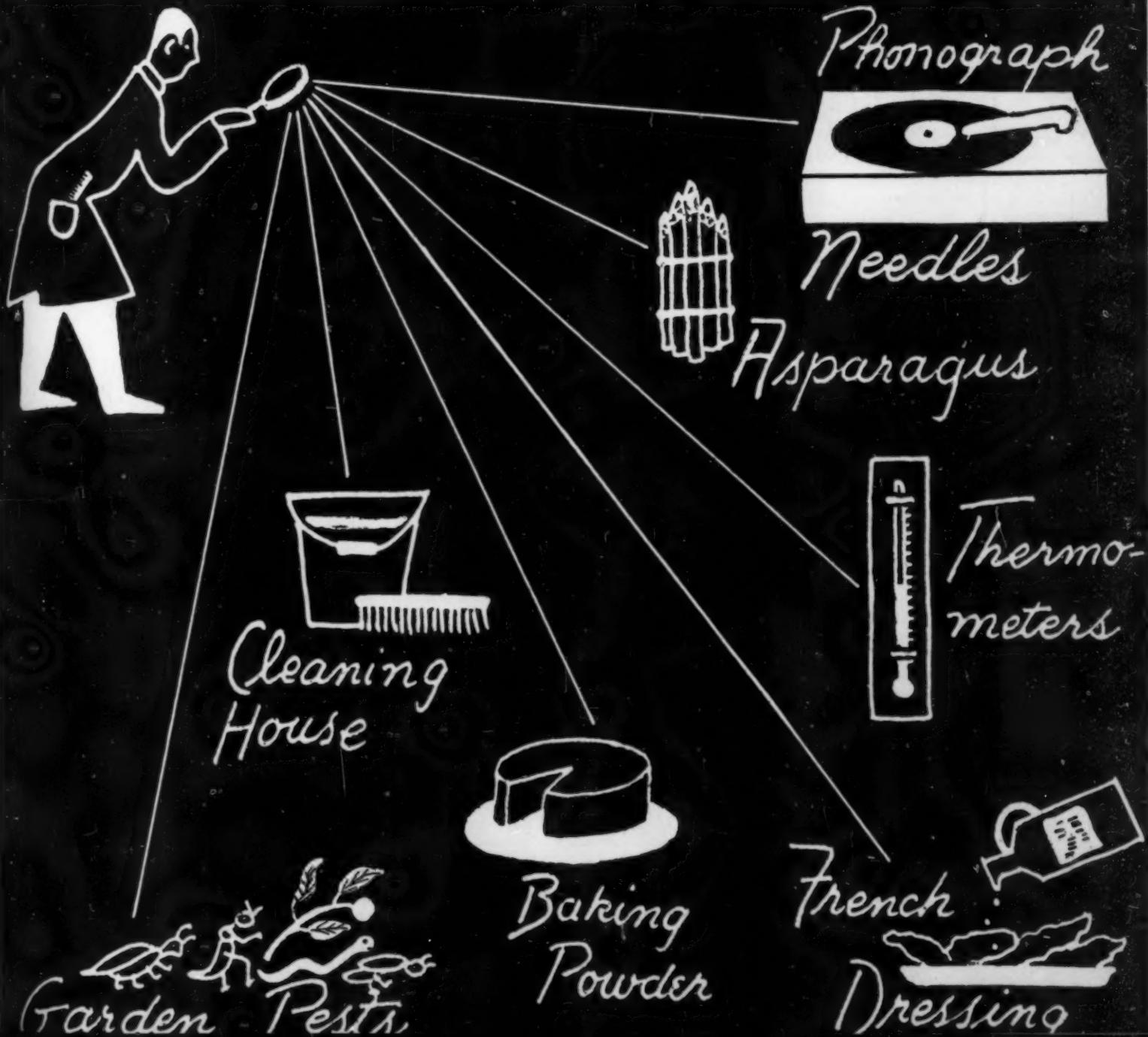
# Consumer Reports

"FACTS YOU NEED  
BEFORE YOU BUY"

VOL. 10, NO. 5

Published Monthly by Consumers Union

MAY 194



# The Contraceptive Pamphlet

## PROGRESS REPORT

Since the issuance of the court injunction barring the Post Office from interfering with the mailing of CU's *Report on Contraceptive Materials*, CU's consultants have been at work bringing the pamphlet up to date. Revision is now almost completed. As soon as a publication date can be set, special order blanks for the *Report* will be sent to CU members. Under the terms of the court order, the pamphlet will be available, as it was before mailing was stopped in 1941, to CU members signing the statement that they are married and use contraceptive materials on advice of a physician. It will also, as in the past, be available to physicians, members of the clergy, and social workers.

## ACCOUNTING

Because of the nature of the objection to the *Contraceptive Report* on the part of some CU members, it was decided, in 1943, not to use CU's regular funds for CU's court action against the Post Office, but to raise a special fund from contributions of CU members. A total of \$4765.54 was contributed, most of the contributions ranging from a dime to a dollar. Because CU's attorneys—Osmond K. Fraenkel, A. J. Isserman, Paul Kern and Horace Whitman—contributed their personal services, only expenses and printing costs being paid from the fund, the total of expenditures on the case amounted to only \$1197.81, leaving a balance of \$3567.73, almost exactly three-quarters of the original fund.

Any contributor will, on request, receive a refund of a pro rata share—three quarters—of his original contribution. If you were one of the contributors and would like to have the unused portion of your contribution returned to you, please write to CU. All money that remains will, by action of CU's Board of Directors, be turned over to CU's special laboratory fund, to be used for postwar technical work.

## COMMENTS

And, finally, here are some comments on the successful conclusion of the court action, which speak for themselves:

**CONSUMERS UNION** is a non-profit organization chartered under the Membership Corporation Laws of New York State. Its purpose is to furnish unbiased, usable information to help families meet their buying problems, get their money's worth in their purchases, develop and maintain an understanding of the forces affecting their interests as consumers. Consumers Union has no connection with any com-

**CONSUMER REPORTS** each month gives comparative ratings of a variety of products based on tests and expert examinations, together with general buying guidance, information on medical and health questions, and news of happenings affecting the consumer's interests. The Reports is the manual of informed and efficient consumers the country over.

**THE BUYING GUIDE** (published as the December issue of the Reports) each year brings together information from all the preceding issues with new material and special buying advice. Pocket-size, 384 pages, with ratings of several thousand products, the Buying Guide is an invaluable shopping companion. Every member gets a copy of the Guide with his membership.

**BREAD & BUTTER** reports each week on new and predicted price and quality changes in consumer goods, interprets Washington legislation as it affects consumers, reports government regulations and actions on the consumer front, advises on food buying and preparation.

**SUBSCRIPTION FEES** are \$4 a year, which includes subscription to the Reports and Buying Guide and Bread & Butter; \$3.50 without Bread & Butter (for foreign and Canadian memberships add 50¢). Reduced subscription rates are available for groups of 5 or more

From Mrs. Stuart Mudd, Director

Counseling Staff

Marriage Counsel of Philadelphia:

"I am delighted to hear . . . that your case against the Post Office has ended in complete victory. In the counseling and teaching work done by Marriage Council of Philadelphia we became more and more aware of the need of people of all ages for reliable information and up-to-date knowledge in every field. It has always been my conviction that every individual has a right to available knowledge and that only on such a sound foundation can constructive behavior be built.

"Thank you very much for participating in any way in the very splendid work that Consumers Union is doing."

From Ray H. Everett, Executive Secretary  
Social Hygiene Society of D. C.:

"The result of your case against the Postmaster General indicates a clear-cut victory for science and logic over bias and superstition. The whole attempt to impose, by star-chamber proceedings and ex cathedra pronouncements, an intellectual censorship on adult citizens savors more of Berlin book-burnings than of free democratic processes.

"As a sociologist and public health worker, accept my appreciation both for your organization and its public-spirited legal volunteer corps. They performed a national service in raising the issue and carrying it through to adjudication in those agencies which are—as they should be—our major bulwarks for the protection of fundamental human rights."

From Paul Popenoe, Director,  
The American Institute of Family Relations:

". . . Since most married couples use contraceptives yet have so little opportunity to know their merits, and so much to lose by being misinformed, the decision which opens the mails to the facts, properly safeguarded, is particularly welcome. Our hearty congratulations to Consumers Union and its friends, for carrying the case to a successful conclusion."

cial interest and accepts no advertising; income is derived from the fees of members, each of whom has the right to vote for candidates to the Board of Directors. More than 70 educators, social workers and scientists sponsor Consumers Union and a national advisory committee of consumer leaders contributes to the formulation of policy (names of the members of the committee will be furnished on request).

(write for details). Library rates, for the Reports and Bread & Butter without the Buying Guide issue, are \$3.50; for the Reports alone, \$3.

Membership involves no obligation whatsoever on the part of the member beyond the payment of the subscription fee.

## Economics Of Peace

Sorry, no cigarettes. Sorry, no meat. Sorry, no sugar. Sorry, no butter. Sorry, no diapers. Sorry, no coal. Sorry, no apartments. Who would have dared to predict, four years ago, that war could do this to consumers in the richest of all countries? But every consumer knows that it did.

We're not going back to 1941 to take credit for predicting what has since happened; we expected shortages, but we didn't figure on sugar lines and cigarette lines in Centerville and New York City, U. S. A.

### THE CONSUMER'S STAKE

The important thing at this moment in history is that just as each turn of the war affects every individual as a consumer, so does every event tied up with the preparation of our country and of the world for the peace to follow. If consumers have cause for concern with price and rationing regulations, they also have cause for concern with policies followed in the sale of government-owned war plants, with the revision of tariffs and trade treaties, with the decisions of San Francisco and the hundred other peace, rehabilitation, trade, monetary and other conferences to follow. With the interdependence of group upon group and nation upon nation growing with each passing year, it is difficult to find any major action or policy affecting the economy of any part of the world that does not have its potential impact upon the living standards of most consumers.

### THE FOREIGN TRADE PROBLEM

The realization that the lack of billions in foreign trade can destroy our dream of postwar prosperity underlines this world-wide interdependence. We know that the average American will eat less, not more, after the war, if Europe, unable to revive its shattered economy, stays close to starvation; to see that Europe is speedily rehabilitated is, therefore, important to American consumers.

We know that stabilization of currencies combined with the availability of funds for rehabilitation of war-ravaged countries—the two main objectives of the Bretton Woods agreements—are essential to a thriving foreign trade; which is why ratification of the Bretton Woods agreements is a consumer issue. And so up and down the line, what looks like politics turns out to be economics; and economics, in the long run, always comes down to what the consumer buys and eats and uses. Therefore, the consumer needs to keep an eye on the politics.

### PROBLEMS WON'T END WITH PEACE

What we're driving at, basically, is that it's dangerous for consumers to think that the end of the war means the end of consumer problems; that pretty soon, there will be plenty of autos and refrigerators and canned goods and cigarettes back on the market, therefore there will soon be nothing more to worry about.

The trouble with this view is that a brand new, shining auto in the showroom is not a brand new, shining auto in your garage. The transition can't be accomplished unless you have, in cash or in prospect, the price of the auto—and the security to make you willing to trade cash for the auto.

We know that the nation's war-augmented productive capacity could in a few years give every American

(Continued on page 137)

# Consumer Reports

"FACTS YOU NEED  
BEFORE YOU BUY"

"Because it was established for the very purpose of aiding families to buy wisely, to avoid waste and to maintain health and living standards, and because it is the largest technical organization providing such guidance, Consumers Union recognizes a special responsibility to the nation. In full awareness of that responsibility, we pledge ourselves to do everything in our power to help Americans as consumers make the greatest possible contribution to the national need."—FROM A RESOLUTION ADOPTED ON DECEMBER 10, 1941, BY THE DIRECTORS.

VOL. 10, NO. 5 • MAY 1945

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## REPORTS ON PRODUCTS

Ratings of products represent the best judgment of staff technicians or of consultants in university, governmental and private laboratories. Samples for test are in practically all cases obtained on the open market by CU's shoppers. Ratings are based on laboratory tests, carefully controlled use tests, the opinion of qualified authorities, the experience of a large number of persons, or on a combination of these factors. Even with rigorous tests, interpretation of findings is a matter on which expert opinion often differs. It is Consumers Union's pledge that opinions entering into its evaluations shall be as free from bias as it is possible to make them.

# Phonograph Needles

### A preliminary report on seven "permanent" needles, based on durability, record wear and reproduction

After a full year's study of test methods and additional months of tests, Consumers Union here presents the first of a series of reports on phonograph needles. The studies up to the present permit only a limited preliminary report on seven brands of permanent needles. Later reports will cover all leading brands of needles, both of the "permanent" type and the short-playing type, and will compare the two types.

The test methods used—developed in CU's laboratories—are designed to show:

1. The relative wear on the records caused by the different brands of needles.
2. The relative merit of the different needles with respect to tone reproduction.
3. The number of records each needle can play without excessive wear on the records and without loss of tone quality. In the evaluation of the needles, wear on records was weighted most heavily.

#### TESTED NEEDLES

Thus far, tests on the following needles are far enough along to permit a preliminary report: *Walco Genuine Sapphire*, *Concertone 2500*, *Pfanstiehl*, *Recoton Sapphire*, *Fidelitone*, *Fidelitone De Luxe*, and *Fidelitone Master*. On the basis of these tests, CU recommends the *Fidelitone* and the *Fidelitone De Luxe* needles. Of the needles tested these are among the least likely to damage your records and they are satisfactory with respect to tone reproduction and durability.

The *Recoton Sapphire*, which sells

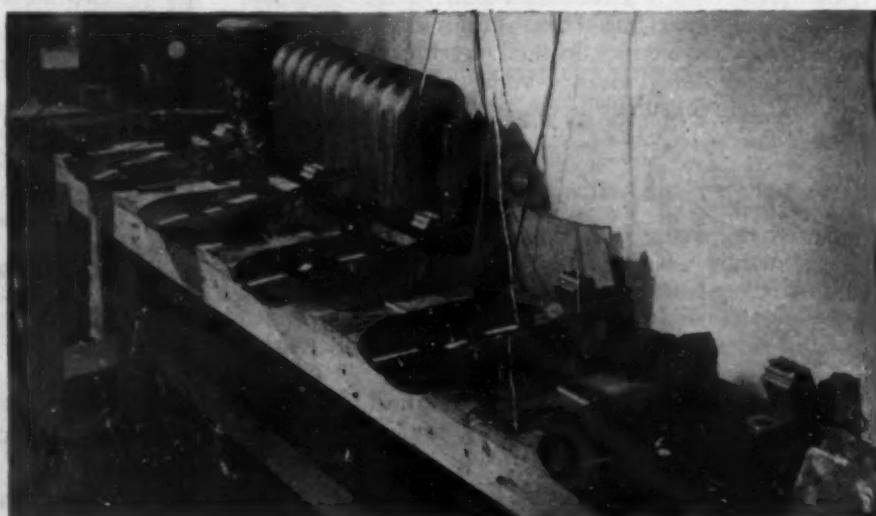
for \$5 a needle—ten times the price of the lowest-priced *Fidelitone* (50¢)—did more damage to the records than did any of the other needles tested thus far, and the *Walco Genuine Sapphire* was nearly as bad as the *Recoton*. Harder on record surfaces than the *Fidelitone* needles, but not nearly so bad as *Walco* or *Recoton* was the *Pfanstiehl*. The *Concertone 2500* needle was as easy on the records as the *Fidelitones*, but its useful life, despite the promise of 2500 plays, was too short to put it in the same class with other permanent needles.

Of the needles tested, those which showed the least wear on the needle tip in the test runs, in general, caused the greatest record wear. Insofar as reproduction was concerned, all of the needles reported on here, with

the exception of the *Concertone 2500* and the *Fidelitone Master*, gave satisfactory reproduction after approximately 2000 playings; satisfactory, that is, to the ear. While laboratory instruments indicated that losses could be expected in reproduction of the high frequencies with the *Fidelitone* and *Fidelitone De Luxe* after 2000 plays, these high frequencies are scarcely, if at all, audible on most home record players, and the loss would have little practical significance. More important was the finding that record wear increased after the needles had been played many times. Even after 2000 plays, however, the *Fidelitone* needles caused less wear than the new, unused *Recoton* or *Walco* needles, and only slightly more wear than the new *Pfanstiehls*.

Unfortunately, the needle which gave the widest tone range was the *Recoton*, which was so damaging to the records as to be wholly unacceptable on that score. The poorest reproduction of the high frequencies was shown by the *Fidelitone Master*. The *Walco* and the *Pfanstiehl* were slightly better than the *Fidelitone* in reproduction of high frequencies, and the *Fidelitone De Luxe* was about the same. It is believed that the differences are too small to be important, but careful listening tests with the aid of trained musicians will be made to throw additional light on this point.

It should be realized, in this connection, that most records are not rich in high frequencies, and that—as pointed out above—most reproduc-



Five samples of each needle were tested simultaneously on five identical automatic record-players.



"Shadowgraphs" of phonograph needles, enlarged 50 times, show that they taper to a rounded end, rather than to a point, as is commonly supposed. Often needles of the same brand differ considerably from one another, as illustrated by the six Fidelitones, above. In general, it was found that the needles with relatively small curvature at the tip (such as No. 1) gave better reproduction and caused less record wear than needles with broader tips (as No. 5, above).

ing systems in home radio-phonographs suppress the high frequencies even when they are present.

Everything considered, the best bet among the needles so far tested is the *Fidelitone*, which, at 50¢, is also the least expensive of the needles tested thus far. Unfortunately, CU's recommendation even of this needle cannot be unqualified because of individual variations in needles of all brands. One *Fidelitone* needle of about 20 examined caused record wear as bad as that caused by the average *Walco* needle; and three or four caused record wear as bad as that caused by the average *Pfanziehl*. You can, however, check the needle you buy at home if you don't want to risk damaging valuable rec-

ords. The method of checking is described at the right.

The number of records a particular needle will play without causing excessive wear depends largely on the weight or pressure of the pick-up arm at the needle. CU's tests were made with six identical automatic record-changers having two-ounce arms. The number of plays of a *Fidelitone* needle with such a record changer should probably be limited to about a thousand. With a heavier record changer, you will get fewer plays per needle, and with a lighter changer, more. The method described for checking a new needle can be used to check needles which have been used as well.

It isn't necessary to count plays. Estimate roughly the number of records you play per day or per week, and make a note of when you're likely to use up the needle's quota of 500 or a thousand or more plays.

It may be that among the forty-odd brands of permanent needles waiting to be tested, some that are superior to the *Fidelitone* will be found. Unfortunately, the tests cannot be rushed. Because of the lack of uniformity of the needles within a brand, it is necessary to test at least six of each brand. And since CU has found no substitute for playing on a record to wear out a needle, at least a full week is required for the tests of each brand.

While the tests developed by CU's laboratory will be described in detail in a later report, the following will indicate the general methods followed:

Record wear was judged in two ways; first, the needles were run in continuous circular grooves on special records made for the test. The increased noise level caused by wear was measured electrically. Then, with one needle kept as a standard for comparison, five needles of each brand were tested simultaneously on

## High Frequency Reproduction

The term "high frequencies," as used in this report, refers to sound and not to radio frequencies. Practically all needles in the test reproduced adequately up to frequencies of about 4000 cycles per second with the pick-up arms used in the test. With most needles the transmission of sounds of frequencies of 5000 cycles or higher dropped sharply.

Middle C on the piano has a tone frequency of about 256 cycles. The frequency is doubled—512 cycles per second—for the C above middle C, and it doubles again for each succeeding octave. This means that any of the needles tested will transmit the fundamental tones of the normal range of music, but that the high overtones will be affected by differences between needles.

The average ear can hear frequencies up to about 15,000 per second.

## How to Check Your Needle

Because of the variability of needles, an occasional needle even of the best brands may prove to be hard on records. For this reason, CU technicians suggest the following test which you can make at home on the particular needle you buy:

Get a *Victor* Black Seal record, either brand new or so little played that it shows no signs of wear when examined in a strong light. With the needle you want to check placed in the pick-up arm, play a small portion of the record—say the outside half-inch or inch—about 25 times. Then wipe off any dust on the record and hold it up to a strong direct light, examining it carefully from different angles. If the whole test area looks definitely gray, then the needle will probably cause excessive record wear, and you will be wise not to use it on records you value. Don't worry about grey streaks along the grooves where there are very loud passages in the music. The loud passages are likely to show wear with any needle. But a very bad needle will cause more or less uniform graying even in the quieter sections.

Remember that generally the grayness cannot be seen without strong light. You can use this same test on a different portion of the same side or on the other side of the record to check other needles or needles which have been used for some time. This test is offered tentatively, not as a first-rate test method, but as the best means CU has yet been able to devise by which the buyer can detect a very bad needle at home.

five different automatic record-changers. The same 10-inch *Victor* Black Seal recording was used for all the tests. Since it was found that increased wear caused increased grayness of the record surface as a result of minute abrasions and chipping, the wear caused by each needle was determined visually. Fidelity of reproduction was determined by electrical measurements with the use of special records giving standard tone frequencies ranging from the very low to the very high. The microscope was used to show needle wear.

While the records used for the wear tests were *Victor* Black Seal, preliminary comparisons of wear on other brands of records showed that, though the durability of different records varied, the relative differences in wear were the same.

The tests have not yet shown how resistant the needles are to accidental damage, as when the pick-up arm is dropped, or when the needle is accidentally pushed across the grooves. This is a consideration especially important to those who have a manual rather than an automatic record player. CU will try to answer this question in future reports. And if a needle is found which combines the low wear on records of the *Fidelitone* with the excellence of tonal range of the *Recoton*, that happy fact will be announced immediately.

## Preliminary Ratings of 7 phonograph needles

### ACCEPTABLE

(In estimated order of merit)

**Fidelitone**, 50¢ and  
**Fidelitone De Luxe**, \$1. Despite the difference in price, these two were about equal in quality.  
**Fidelitone Master**, \$1.50. Caused as little wear on records as the other **Fidelitones**, but useful life was much shorter, and tonal range smaller.

**Concertone 2500**, \$1. Caused as little wear on records as **Fidelitones**, but useful life was limited to a few hundred plays.

**Pfanstiehl**, \$1.50. Caused more record wear than the **Fidelitones**.

### NOT ACCEPTABLE

**Walco Genuine Sapphire**, \$1. Caused excessive record wear.  
**Recoton Sapphire**, \$5. Caused excessive record wear.

# Room & Weather THERMOMETERS

## a report on what's available, with ratings of 20 brands

On occasions, a thermometer is no more than a gadget, used to satisfy the owner's curiosity or to confirm his conviction that it's too hot or too cold. But at other times, a thermometer can be an essential tool, telling when the time has come to turn down the furnace, to put more anti-freeze into the auto radiator, or to drain water-pipes. As a gadget, the household thermometer need be no more accurate than its user's whim demands. As a tool, the thermometer should be accurate within reasonably close limits.

CU's object in its series of thermometer tests was to find what chance the consumer had of picking up a moderately accurate thermometer on the present market. And the answer, based on tests of 20 brands ranging in price from 10¢ to \$2.75, was found to be that the buyer's chances were about fifty-fifty.

High price, laboratory tests show, is not necessarily an assurance of accuracy. Four brands costing \$1 or more were in the group having less than 2° Fahrenheit average deviation over the useful range; five brands costing \$1 or more showed deviations of far more than 2° F. Nor could it be said, in general, that brand name was a completely reliable guide. Two samples of the *Chaney Tru-Temp*, selling for 39¢ each, met the 2° accuracy standard; two other *Chaney Tru-Temp's*, priced at 65¢, showed considerable variation, one of them deviating by far more than the 2° allowed.

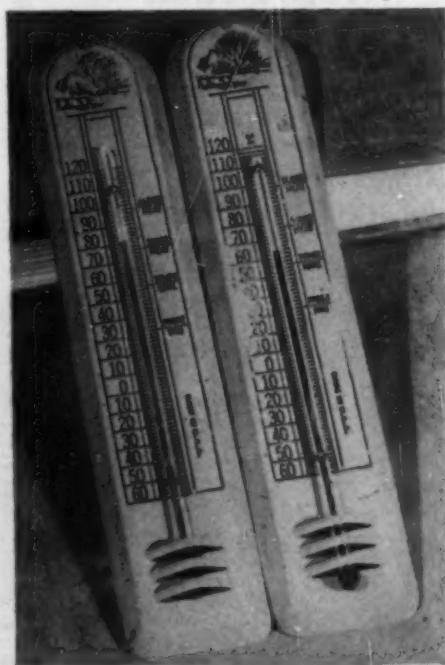
### TYPES OF THERMOMETERS

Two general types of room and weather thermometers are in use: liquid-in-glass and dial-type. On the liquid-in-glass variety, a colored column of liquid rises and falls in a glass tube as the temperature changes. On the dial-type, a pointer moves over a scale, actuated by differential expansion of the metals inside. Either may be accurate—or inaccurate—CU's tests show.

One gadget found on several thermometers was of interest, but of no practical use. This was a "storm glass attachment," supposed to indicate the approach of a change in weather. It consisted of a glass tube, filled with liquid and containing some undissolved crystals. In theory, the crystals were to rise or fall with each approaching change in weather. In practice, the crystals remained unmoved during the whole testing period, though the testing occurred during the changeable Spring season which included snow, rain, hail and sunshine.

### HOW CU TESTED

Room and outdoor thermometers were tested at four different points along the temperature scale: 15° F., 32° F., 75° F. and 105° F. In each case, they were immersed in non-corrosive liquids held at approximately these temperatures, and the readings of the test thermometers were taken simultaneously with read-



If the glass tube is not properly fastened to the back, the thermometer reading may be off by many degrees.



Examine the thermometer, and compare its reading with that of others near it before you buy. Sometimes there's a wide discrepancy, as in the two dial-type thermometers shown above.

ings of standard thermometers immersed in the same liquids. The critical temperatures in determining the ratings were 32° (freezing point) and 75° (near room temperature).

In purchasing samples for test, CU shoppers attempted to buy two samples of each brand and price range. But this was sometimes impossible. Where only one of a kind could be bought, this is indicated in the ratings which follow. The order of listing is based on the accuracy of the poorer thermometer tested, where more than one was available.

#### HOW TO BUY

CU recommends that you try to purchase a thermometer, if you need one, from among the brands listed in the "less than 2° average deviation" list. But whether you are able to find one of these or not, there are some checks you can make on the thermometer's accuracy:

If it is of the liquid-in-glass type, make sure that the glass is well fastened to the backing on which the scale is printed. If the tube is loose, the readings may be off by many degrees as a result of the tube's sliding down the scale. And before you buy any thermometer, compare its reading with that of others displayed in the same place. Select one which reads about the same as others near it.

Because of the variability of thermometers, the ratings which follow are intended only as a general guide. Whatever thermometer you buy, be sure to check the reading with a number of other thermometers alongside it.

#### LESS THAN 2° AVERAGE DEVIATION

(Listed in approximate order of all-round accuracy)

**Taylor No. 5109** (Taylor Instrument Co., Rochester, N.Y.). \$2. Liquid-in-glass, wall thermometer. Range, 30° to 110° F.

**Weksler** (Weksler Thermometer Corp., NYC). \$1.25 to \$1.50. Liquid-in-glass, wall thermometer. Range, -30° to 120° F.

**Taylor** (Taylor Instrument Co.). \$2.75. Liquid-in-glass, metal-backed outdoor thermometer. Range, -40° to 130° F.

**Taylor No. 5128** (Taylor Instrument Co.). 75¢. Liquid-in-glass, wall thermometer. Range, 10° to 110° F.

**Tel-Tru** (Germanow-Simon Co., Rochester, N.Y.). 50¢. Dial-type, mechanical thermometer. Range, 0° to 120° F. Only one sample tested.

**Weatherman Jr.** (Artcrest Products). 35¢. Liquid-in-glass thermometer, with "storm glass" attached. See comments on page 118 regarding this attachment. Range, -20° to 120° F.

**Unbranded** (Purchased at Macy's Dep't Store, NYC). 39¢. Dial-type, mechan-

ical thermometer. Range, -20° to 120° F.

**Ez-Site No. 57-9282** (Schreiber Thermometer Co., NYC). \$1.23. Liquid-in-glass thermometer. Range, -40° or -60° to 120° F.

**Chaney Tru-Temp.** 39¢. Liquid-in-glass, wall thermometer. Range, -30° to 120° F.

**Unbranded** (Purchased at Liggett's Drug Stores, NYC). 49¢. Liquid-in-glass thermometer. Range, -30° to 120° F.

#### OVER 2° AVERAGE DEVIATION

**Chaney Tru-Temp.** 65¢. Liquid-in-glass, metal-backed outdoor thermometer. Range, -60° to 120° F. Different samples showed considerable variation.

**American** (American Thermometer Co., St. Louis). \$1.50. Liquid-in-glass, wall thermometer. Range, -40° to 130° F. Only one sample tested.

**Swift & Anderson** (Swift & Anderson, Inc., Boston). \$2. Dial-type, mechanical thermometer. Range, -60° to 120° F.

**Airguide, Jr.** (Fee and Stemwedel, Inc., Chicago). \$1. Dial-type, mechanical thermometer with humidity indicator. Range, 20° to 120° F.

**Testrite No. 35** (Testrite Instrument Co., NYC). 49¢. Liquid-in-glass, wall thermometer. Range, 10° to 120° F.

**Cooper** (Cooper Oven Thermometer Co., Pequabuck, Conn.). 39¢. Dial-type, mechanical thermometer. Range, -20° to 120° F. Only one sample tested.

**Unbranded** (Purchased at Kress' 5&10, NYC). 10¢. Liquid-in-glass thermometer. Range, -60° to 120° F.

**Unbranded** (Purchased at Macy's Dep't Store, NYC). \$1.88. Liquid-in-glass thermometer. Range, -40° to 130° F.

**Cooper** (Cooper Oven Thermometer Co.). 49¢. Dial-type, mechanical thermometer. Range, 10° to 130° F. Different samples showed considerable variation.

**Testrite** (Testrite Instrument Co.). \$1. Liquid-in-glass thermometer, with "storm glass" attached. See comments on page 118 regarding this attachment. Range, -50° to 120° F. Only one sample tested.

### Other Household Thermometers

CU found only one brand of cooking thermometer available on the market, the *Ohio*. Both the *Ohio Candy Thermometer* (Range, 30° to 340° F.) and the *Ohio Double Duty: Candy and Frying* (Range 100° to 425° F.) were judged to be sufficiently accurate in their useful ranges.

Three refrigerator thermometers—*Ice-O-Meter* (39¢), *Weksler* (\$1) and an unbranded one purchased at Macy's (39¢)—were also found generally satisfactory.

The *Baby Bath Floating Boat* (Schreiber, 49¢), was found to be accurate enough, though its usefulness might be questioned. Mothers generally find the correct bath temperature easy enough to judge, and regard a bath thermometer as just another useless gadget.

# Baking Powder

## Price and quality comparisons of 18 brands of three different types

Baking failures more often result from incorrect mixing and baking techniques than from poor quality of the baking powder used. The leavening action which makes a cake rise results from the liberation, by chemical action, of large volumes of carbon dioxide in the dough. A baking powder is good if it produces carbon dioxide easily, and through the action of chemicals which are harmless to human beings. Of the 18 brands tested by CU, only two—*IGA* and *Ehlers Grade "A,"* which contained too little available carbon dioxide—were considered "Not Acceptable."

Baking soda (sodium bicarbonate) is the ingredient which furnishes carbon dioxide in all types of baking powder. As a gas-releasing agent, either cream of tartar, calcium acid phosphate, or a combination of phosphate and alum is used. No reaction takes place while the powders are dry; but when water is added, carbon dioxide is released.

Corn starch, used as a filler to keep the powders dry and prevent them from reacting before they are used, may soon be replaced by calcium carbonate, according to the War Food Administration. In 1943, 50 million pounds of corn starch went into the manufacture of baking powder, but today war uses have priority. Although none of the samples tested contained calcium carbonate, CU technicians believe that its use will not have any effect on the quality of the product.

### TYPES OF BAKING POWDER

There are three types of baking powder: phosphate-alum (double acting), phosphate, and tartrate. They differ mainly in their acid-reacting ingredient which determines the relative speed with which each type can form the gas necessary for leavening.

Baking powders of the tartrate type, the first to be developed, liberate all their evolved carbon dioxide at room temperature if the unbaked

dough is allowed to stand. Straight phosphate powders are slower in action; only two-thirds of their available carbon dioxide is evolved if the unbaked dough is allowed to stand, the rest being freed when the dough is in the oven.

Eleven of the 18 brands tested were of the "double acting" type. These phosphate-alum combinations, the cheapest and most widely used today, are preferred by most bakers because they liberate only one-fifth to one-third of their available carbon dioxide in the unbaked dough, oven temperatures being required to complete the rising process.

If your timing is poor and your cake batter is ready before the oven is hot, you'll do well to use one of the double acting brands which do not deteriorate with waiting. But if you can mix dough quickly and get it into the oven without delay, one type of baking powder is likely to give just as good results as another.

Any baking powder will deteriorate if it is allowed to become moist. Containers should be closed tightly and stored in a dry place when not in use. If the original container cannot be kept moisture-proof after it is opened, transfer the contents to a glass jar fitted with a screw cap.

### CU'S TESTS

A minimum of 12% available carbon dioxide is required by Food and Drug Administration standards for all types of baking powder. The three brands found to contain less than this amount were rated "Not Acceptable." In tests for the presence of lead, arsenic and iron, all brands proved to be practically free from such metallic impurities. The condition of containers and powder was also noted. Excessive lumpiness, indicating absorption of moisture, was found only in the single brand—*IGA*—which was packed in an all-cardboard container.

*Order of ratings is based on the cost and the amount of carbon dioxide released. The figures in parentheses represent cost of baking powder required to release a given amount of carbon dioxide.*

## Phosphate-Alum Type

### BEST BUYS

*Clabber Girl Double Acting (Hulman & Co., Terre Haute, Ind.). 8¢ for 10 oz. (.6¢).*

*Ann Page Double Acting (A&P, NYC). 11¢ for 12 oz. (.7¢) Available nationally at A&P Stores.*

### ACCEPTABLE

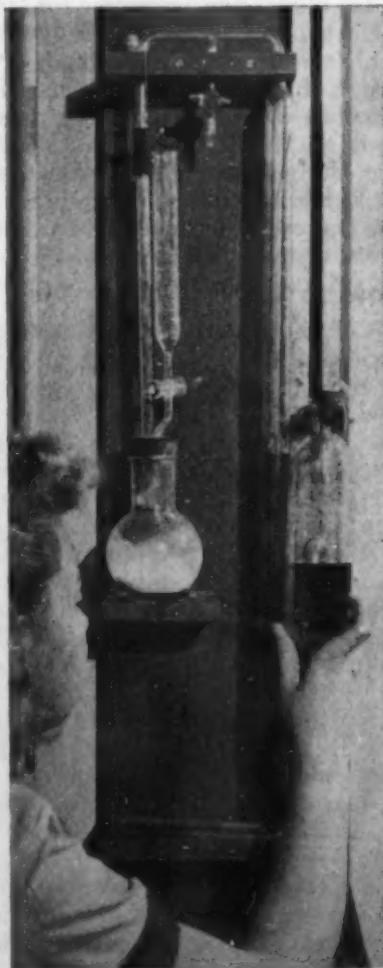
*(In order of increasing cost per oz., based on available carbon dioxide)*

*Clabber Girl Double Acting (see "Best Buys").*

*Ann Page Double Acting (see "Best Buys").*

*Davis Double Acting (R. B. Davis Co., Hoboken, N.J.). 12¢ for 12 oz. (.8¢). Available nationally.*

*Calumet Double Acting (General Foods*



*The gas evolved from each baking powder was measured with the apparatus shown above.*

Corp., Chicago). 19¢ for 1 lb. (.9¢). Available nationally.

**Co-op Double Acting** (National Co-operatives, Inc., Chicago). 17¢ for 1 lb. (.9¢). Available nationally at Co-op Stores.

**K C Double Action** (Jaques Mfg. Co., Chicago). 10¢ for 8 oz. (.9¢). Available in the South and West.

**Hearth Club Double Acting** (Rumford Chemical Works, Rumford, R. I.). 15¢ for 10 oz. (1.1¢).

**Larkin Cat. No.—530** (Larkin Co., Buffalo). 18¢ for 12 oz. (1.3¢). Available by mail order.

**Watkins** (J. R. Watkins Co., Newark, N. J.). 35¢ for 1 lb. (2¢).

#### NOT ACCEPTABLE

*Available carbon dioxide below the minimum allowed.*

**IGA Double Action** (Independent Grocers' Alliance Distributing Co., Chicago). 15¢ for 1 lb. (1.2¢). Packed in an all-cardboard container; powder excessively lumpy.

**Ehlers Grade "A"** (Albert Ehlers, Inc., Brooklyn, N. Y.). 19¢ for 8 oz. (2.8¢).

## Phosphate Type

#### BEST BUY

**Asco** (American Stores Co., Philadelphia). 9¢ for 8 oz. (1¢). Available nationally at American Stores.

#### ACCEPTABLE

*(In order of increasing cost per oz., based on available carbon dioxide)*

**Asco** (see "Best Buy").

**Dr. Price's** (Standard Brands Inc., NYC). 18½¢ for 12 oz. (1.2¢).

**Rumford** (Rumford Chemical Works). 22¢ for 12 oz. (1.5¢). Available nationally except in the Rockies and the Pacific Northwest.

**Jewel T** (Jewel Tea Co., Barrington, Ill.). 50¢ for 1 lb. (2.6¢). Available nationally at Jewel Tea Stores.

## Tartrate Type

#### ACCEPTABLE

*(In order of increasing cost per oz., based on available carbon dioxide)*

**Schilling** (A. Schilling & Co., San Francisco). 45¢ for 12 oz. (3.2¢). Available west of the Mississippi and in Alaska and Hawaii.

**Royal** (Standard Brands). 56¢ for 12 oz. (4.1¢). Available nationally.

#### NOT ACCEPTABLE

*Available carbon dioxide below the minimum allowed.*

**Swansdown** (S. S. Pierce Co., Boston). 32¢ for 8 oz. (4.1¢).

# Canned Asparagus

A report on 59 brands of asparagus tips, spears and cuts, based on tests made for CU by U. S. Dep't of Agriculture graders

Fifty-nine brands of canned asparagus were tested for CU by U.S. Government graders. From two to eight (in most cases four) cans of each brand were examined for tenderness, absence of defects, color and clearness of liquor. Since the stalks of asparagus are apt to become stringy and tough, tenderness was considered the most important factor, accounting for 40 per cent of the total score.

Most of the asparagus used for canning is grown in the delta lands of the Sacramento and San Joaquin Valleys of California, where the soil is a peaty loam. This allows the asparagus to grow to full size without distortion, in a short period.

There are two types of canned asparagus—green and white. Both types come from the same plant—the only difference is in the growing method. The white asparagus is "hilled over" with soil so that it is covered until it is cut, while the green asparagus is allowed to grow through the surface.

For best results in canning the asparagus should be processed as quickly as possible to prevent it from becoming tough and bitter. After the asparagus is sorted, graded and cut to proper size, it is blanched to remove the mucus-like bitter material which adheres to fresh asparagus. Blanching also softens the stalks so that they may be packed more tightly in the cans, and permits crooked stalks to be packed straight. The asparagus is then put into the cans to which a hot dilute brine is added. After sealing, cans are sterilized at a temperature of about 240° F. for 15 to 25 minutes, the time depending on the size of the can.

Canned green asparagus contains fair amounts of Vitamin A; both green and white contain some vitamins B<sub>1</sub> and C and some minerals; both are low in protein, fat and carbohydrate. In addition to its use as a year-round vegetable, asparagus is also used in soups, casserole dishes, salads and omelettes.

Asparagus "tips" or "spears" consist of the head and more or less of the adjoining tender portions of the stalks; they are best suited for use in salads and vegetable dishes. "Cut spears" consist of tips and stalks, which have been cut into pieces. "Center" or "bottom" cuts consist of stalks cut into pieces from which the heads or tips have been removed. The cut spears and center or bottom cuts—more economical than whole spears or tips—are used in soups, omelettes and casserole dishes where appearance is a minor factor.

Prices for green or white spears ranged, in the brands tested, from 31¢ to 59¢ for a #2 (1 lb., 3 oz.) can, with most of them costing between 35¢ and 45¢; cut spears cost slightly less, ranging from 29¢ to 55¢, with most of them costing from 30¢ to 40¢; center cuts with tips removed generally ranged from 27¢ to 40¢, with two notable exceptions—*Nation Wide* Center Cuts which cost 12¢ and *Yacht Club*, which cost 53¢ per can.

The cost per pound of drained weight (actual weight of the asparagus without liquor) shows even more clearly that canned asparagus is an expensive food item. Green spears cost from 40¢ to 75¢ per pound, drained weight; white spears were slightly cheaper, ranging from 33¢ to 68¢ per pound, drained weight; cut spears cost from 35¢ to 65¢ per pound; center cuts were again the cheapest, ranging from 30¢ to 45¢, with the exception of *Nation Wide*, which sold for 13¢ a pound.

*Spears* (cuts 3¼ inches or longer) are generally packed in #2 cans; *tips* (cuts 2¾ to 3¼ inches in length) are usually packed in flat 1-pound cans; *points* (cuts less than 2¾ inches long) may be found in #2 cans.

Canned asparagus is classified into three grades—U.S. Grade A or Fancy, U.S. Grade C or Standard, and U.S. Grade D or Substandard. Only one of the 59 brands—*Sampan*—failed to meet either Grade A or

Grade C standards and was listed as "Not Acceptable" in the ratings.

Ratings are in order of quality within each group. Unless otherwise noted, prices are for a No. 2 can (1 lb. 3 oz.). Figures in parentheses represent cost per pound of asparagus without packing liquor (drained weight).

## Bleached Spears and Tips

### BEST BUYS

Rialto Mammoth-Large-Medium Blend (Western California Canners, Antioch, Calif.). 33¢ (36¢). Grade A.  
E and A (Ensher, Alexander & Barsoom, Inc., Sacramento, Calif.). 33¢ (38¢). Grade A.

### ACCEPTABLE

#### GRADE A

Prattlow (Pratt-Low Preserving Co., Santa Clara, Calif.). 41¢ (52¢). Available nationally.

Rialto (see "Best Buys").

Del Monte Early Garden (California Packing Corp., San Francisco). Tips, 49¢ for 1 lb. (56¢); spears, 33¢ for 1 lb. 3 oz. (40¢). Available nationally.

Sweet Home (Goddard Grocer Co., St. Louis, Mo.). 41¢ (49¢). Available in Mo. and Ill.

Topmost Mammoth Natural Spears (General Grocer Co., St. Louis, Mo.). 42¢ (45¢).

Monarch Colossal (Reid, Murdoch & Co., Chicago). 59¢ (68¢). Available nationally.

Shurfine Colossal (National Retailer-Owned Grocers, Inc., Chicago). 37¢ (43¢). Available nationally.

Premier Large (Francis H. Leggett & Co., NYC). Tips, 50¢ for 1 lb. (63¢); spears, 49¢ for 1 lb. 3 oz. (54¢). Available east of the Mississippi and in Texas.

White Rose Mammoth, Large and Medium Sizes (Seeman Bros., Inc., NYC). 45¢ (50¢). Available nationally.

E and A (see "Best Buys").

Val Vita Large Ungraded (Val Vita Food Co., San Francisco). 39¢ (46¢).

Libby's California (Libby, McNeill & Libby, San Francisco). 41¢ (49¢). Available nationally.

S. S. Pierce Co. Red Label Blended (S. S. Pierce Co., Boston). 45¢ (51¢). Available in New England.

Del Monte Salad Asparagus Points, Mixed Sizes (California Packing Corp.). 39¢ for 1 lb.; 53¢ for 1 lb. 3 oz. (65¢). Available nationally.

Sunny Skies Grade A Fancy (Sutter Canfood Co., San Francisco). 31¢ (33¢).

A&P Grade A (A&P, NYC). 31¢ (35¢). Available nationally at A&P Stores.

IGA (Independent Grocers' Alliance Distributing Co., Chicago). 39¢ (44¢). Available nationally at IGA Stores.

S and W Mammoth-Large-Medium Blend (S and W Fine Foods, Inc., San Francisco). 47¢ (52¢). Available nationally.

#### GRADE C

Nation Wide Mammoth (Nation-Wide Service Grocers, Brockton, Mass.). 43¢ (46¢). Available in N.Y., New England, Penna., Toledo, St. Louis, Chicago and Washington, D.C.

Air Mail Medium (Richmond-Chase Co., San Jose, Calif.). 31¢ (35¢).

Krasdale Medium and Mammoth (Krasdale Foods Inc., NYC). 38¢ (43¢). Variable; one of eight cans tested off-grade for tenderness. Available in N.Y., N.J., Penna., Conn., Mass., R.I. and Me.

## All-Green Spears and Tips

### BEST BUY

Libby's California (Libby, McNeill & Libby). 33¢ (41¢). Grade A. Available nationally.

### ACCEPTABLE

#### GRADE A

Del Monte Mary Washington Asparagus Tips (California Packing Corp.). 52¢ for 1 lb. (71¢). Available nationally.

Niblets (Minnesota Valley Canning Co., Le Sueur, Minn.). 40¢ (50¢). Available nationally.

Palmdale Fancy Quality Medium and

Blended Mammoth and Large Sizes (S and W Fine Foods). 47¢ (59¢). Available nationally.

Sun-Kist Fancy Mary Washington (California Packing Corp.). 53¢ (70¢). Available nationally.

Libby's (see "Best Buy").

Hunt's Fancy Blended California (Hunt Bros. Packing Co., San Francisco). 43¢ (53¢).

Hurff Jersey Mammoth Size (Edgar F. Hurff Co., Swedesboro, N.J.). 45¢ (53¢). Available nationally.

Sweet Life (Sweet Life Food Corp., NYC). 45¢ (53¢). Available in N.Y., Pittsburgh, Detroit and Springfield, Mass.

Del Monte Mary Washington Spears (California Packing Corp.). 39¢ (48¢). Available nationally.

Premier Mammoth (Francis H. Leggett & Co.). 55¢ (75¢). Available east of the Mississippi and in Texas.

Ritter (P. J. Ritter Co., Bridgeton, N.J.). 47¢ (54¢).

Val Vita California (Val Vita Food Co.). 36¢ (44¢).

Flotill Large and Small (Flotill Products, Inc., Stockton, Calif.). 41¢ (51¢). Available nationally.

## All-Green Cut Spears

### BEST BUYS

Cherry Valley (Jewel Tea Co., Inc., Barrington, Ill.). 29¢ (36¢). Grade A. Contained approx. 25% tips. Available nationally at Jewel Tea Stores. Ritter (P. J. Ritter Co.). 31¢ (38¢). Grade A. Contained approx. 37% tips.

### ACCEPTABLE

#### GRADE A

Yellowstone (Paxton and Gallagher Co., Omaha, Nebr.). 35¢ (43¢). Contained approx. 25% tips. Available in Omaha and vicinity.

Flotta (Flotill Products). 49¢ (65¢). Contained approx. 28% tips. Available nationally.

Ritter (see "Best Buys").

Cherry Valley (see "Best Buys").

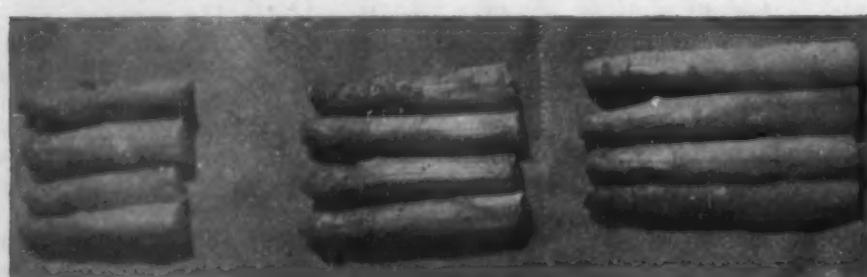
Del Monte (California Packing Corp.). 39¢ (47¢). Contained approx. 35% tips.

Premier, Points Included (Francis H. Leggett & Co.). 45¢ (54½¢). Contained approx. 30% tips.

Nation Wide (Nation Wide Service Grocers). 40¢ (49¢). Contained approx. 30% tips. Available in N.Y., Penna., New England, St. Louis, Chicago, Toledo and Washington, D.C.

Farmdale U.S. Grade A Fancy (American Stores Co., Phila.). 32¢ (46¢). Contained approx. 25% tips. Available nationally at American Stores.

Clover Farm (Clover Farm Stores Corp., Cleveland). 42¢ (54¢). Contained approx. 38% tips. Available east of the Rockies at Clover Farm Stores.



Points, as defined in government grades, measure less than 2¾ inches (left); tips are 2¾ to 3¼ inches long (center); and spears (right) are more than 3¼ inches in length.

Krasdale (A. Krasne, NYC). 39¢ (47¢). Contained approx. 27% tips. Available in N.Y., N.J., Penna., Conn., Mass., R.I. and Me.

County Kist (Minnesota Valley Canning Co.). 39¢ (47¢). Contained approx. 32% tips. Available nationally.

White Rose (Seeman Bros.). 39¢ (49¢). Contained approx. 27% tips. Available nationally.

Sacramento U.S. Grade A Fancy (Ber-cut Richards Packing Co., Sacramento). 33¢ (41¢). Contained approx. 35% tips.

Rose-Dale (Libby, McNeill & Libby). 39¢ (46¢). Contained approx. 33% tips. Available nationally.

#### GRADE C

Grisdale (Gristede Bros., Inc., NYC). 32¢ (40¢). Contained approx. 28% tips. Available in N.Y. and Conn. at Gristede Stores.

Co-op Grade A (National Co-operatives Inc., Chicago). 35¢ (44¢). Contained approx. 33% tips. Available nationally at Co-op Stores.

Min-ot (Minot Food Packers, Inc., Bridgeton, N.J.). 55¢ (65¢). Contained approx. 35% tips.

## Center Cuts, Tips Removed

#### ACCEPTABLE

##### GRADE A

Hurff All Green Jersey Cuts—Tips Removed (Edgar F. Hurff Co.). 32¢ (39¢). Available nationally.

Min-ot Center Cuts (Minot Food Packers). 37¢ (44¢).

Farm House All Green Centercut Spears—Tips Removed (Reid, Murdoch & Co.). 27¢ (30¢). Available nationally.

Nation Wide Center Cuts—Tips Removed (Nation-Wide Service Grocers). Bleached. 12¢ (13¢). Available in N.Y., Penna., New England, St. Louis, Chicago, Toledo and Washington, D.C.

Jes-so All Green Cuts—Tips Removed (Sweet Life Food Corp., Brooklyn, N.Y.). 29¢ (33¢). Available in N.Y., Pittsburgh, Detroit and Springfield, Mass.

Pritchard's Pride of the Farm Jersey All Green Cuts—Tips Removed (E. Pritchard, Inc., Bridgeton, N.J.). 39¢ (46¢). Available in N.Y., N.J., Penna., Del., Md. and New England.

Checker All-green Cut Spears—Tips Removed (Seeman Bros., Inc.). 29¢ (34¢). Available nationally.

#### NOT ACCEPTABLE

Sampan All Green Cuts—Tips Removed (Pratt-Low Preserving Co.). 29¢ (37¢). Variable, Grade C to Sub-standard.

# French Dressing

... bought ready-made varies considerably.  
CU consultants found in testing 13 brands

French dressing, as defined by Federal Specifications, is more often than not a far cry from what you'll find on the grocers' shelves under that name, CU's tests on 13 brands showed. Of the brands tested only two—*S. S. Pierce* and *Miracle*—had true French dressing flavor and met the specifications which the government uses for its own purchases (not less than 35% edible vegetable oil, salt, spices, vinegar and other seasoning). Four others tasted as French dressing might be expected to taste, though they contained less than the required amount of oil. Five more, while acceptable enough as dressings, tasted more like Russian dressing, meat sauce, or some other product than they did like French dressing. And the remaining two brands were just generally unsatisfactory.

Tomato in one form or another was an ingredient in all but four of the dressings tested, though it is not an ingredient in the classic recipe. Six of the products contained the vegetable gum, tragacanth, which thickens the mixture and prevents separation into watery and oily layers. Presumably this is a bow to customer appeal; the housewife is so accustomed to seeing smooth, homogeneous substances on the grocery shelf that she tends to think of a separated liquid as defective. Such homogenizers probably do no harm, though connoisseurs may insist that a homogenized mixture won't coat crisp salad ingredients in just the same way as does the standard two-layer formula.

#### THE RIGHT BRAND FOR YOUR DIET

If you're counting calories, consider the oil content of the French dressing you use, as well as its flavor. Even within the limits set by the Federal Specifications, considerable variation in oil content was found. And some brands contained far less than the specified 35% oil. One tablespoonful of high-oil *Miracle*, for example, will add about 50 calories to a salad.

But the same amount of low-oil *Holsum* or *Pique* French Dressing will flavor your salad, and add only about 25 calories per tablespoonful.

#### PRICE, FLAVOR, COMPOSITION

Prices, ranging from 11¢ to 39¢ for eight ounces in the brands tested, cannot be relied upon as a guide either to good flavor or to high-quality composition. *Pique* Dressing French Style, rated "Not Acceptable" because of its flat flavor and excessively low oil content, and the same manufacturer's *Pique* French Dressing, with very good flavor and containing considerably more oil, both stood at the top of the price scale. *Co-op Savory* French Dressing, which won a very high flavor rating, contained considerably more oil than either of the *Pique* varieties, yet cost 22¢ less for eight ounces.

French dressings are useful in more elaborate recipes as well as for flavoring simple raw vegetable or fruit salads. You can pep up the flavor of discouraged left-overs by marinating them in French dressing before combining them into a salad made with mayonnaise or salad dressing. To marinate cooked vegetables or meat, let the cut pieces stand in French dressing until they are well seasoned. If the dressing is not completely absorbed, drain off the excess before adding other salad ingredients and mayonnaise.

But never dress a green salad until just before it is ready to be eaten. Standing in French dressing destroys the crisp freshness of raw fruits and vegetables, and makes them limp and unappetizing.

If you mix your own French dressing, you can easily vary the basic theme of one part of acid ingredient (vinegar, lemon juice or grapefruit juice) to two or three parts of oil, plus seasoning (salt, pepper, paprika, sugar, etc.) to taste. Finely chopped herbs, roquefort or bleu cheese, chopped garlic, onion juice, mustard

(dry or prepared), horseradish, catsup or tomato soup will add new interest to the basic recipe.

Because of the great variability in composition and flavor of the products tested, they are listed in order of decreasing flavor score within each group. But note comments on flavor character, oil content, and acid (vinegar) content.

#### ACCEPTABLE

(In order of decreasing flavor rating within each group, but note comments)

### True French and French-Type Dressings

Pique French Dressing (Seeman Bros., Inc., NYC). 29¢ for 6 oz. Very good flavor; high vinegar content. Contained 24% oil, 54% water. Available nationally.

Co-op Savory French Dressing (National Co-operatives, Inc., Chicago). 17¢ for 8 oz. Good, pungent flavor. Contained 34% oil, 42% water. Available nationally at Co-op Stores.

IGA French Dressing (Independent Grocers' Alliance Distributing Co., Chicago). 17¢ for 8 oz. Good, pungent flavor. Contained 24% oil, 44% water. Available nationally at IGA Stores.

S. S. Pierce French Dressing (S. S. Pierce Co., Boston). 29¢ for 8 oz. Good, but having a strong tomato flavor. Contained 39% oil, 50% water. Available in New England.

Miracle French Dressing (Kraft Cheese Co., Chicago). 19¢ for 8 oz. Fairly good flavor, with onion or garlic taste predominating. Contained 47% oil, 32% water. Available nationally.

Blue Jewel French Dressing (Jewel Food Stores, Barrington, Ill.). 11¢ for 8 oz. Good, but having a sweet-pickle flavor. Contained 24% oil, 47% water. Available nationally at Jewel Tea Stores.

### Miscellaneous-Type Dressings

The following, while labeled "French Dressing," actually tasted more like other types, as indicated:

Hazel French Dressing (National Tea Co., Chicago). 12¢ for 8 oz. Very good flavor, but similar to barbecue sauce. Contained 41% oil, 27% water. Available in the Midwest at National Tea Stores.

Holsum French Dressing (Holsum Products, Brooklyn). 23¢ for 16 oz. Good, sweet, spicy flavor, but similar to Russian dressing. Contained 28%

oil, 48% water. Available nationally. Merit French Dressing (Merit Food Co., Hackensack, N. J.). 21¢ for 8 oz. Good, spicy flavor, but similar to Russian dressing. Contained 12% oil, 64% water. Available nationally.

Hellmann's French Dressing (Best Foods, Inc., NYC). 19¢ for 8 oz. Fair, sweet, vinegary flavor. Contained 36% oil, 32% water. Available nationally.

Kraft French Dressing (Kraft Cheese Co.). 20¢ for 8 oz. Fair, peppery flavor, but similar to Russian dressing. Contained 44% oil, 36% water. Available nationally.

#### NOT ACCEPTABLE

The following were rated "Not Acceptable" for the reasons stated:

Pique Dressing French Style (Seeman Bros.). 29¢ for 6 oz. Flat flavor. Contained 19% oil, 68% water. Very high vinegar content. Not the same as the Pique French Dressing listed as "Acceptable," above.

Virginia Dare French Dressing (Virginia Dare Extract Co., Brooklyn). 17¢ for 8 oz. Flat, though vinegary and with a sharp, peppery after-taste. Contained only 2% oil, 83% water.

## The Control of Garden Pests



A well diversified garden in well prepared soil will usually produce much edible food in spite of insects and plant diseases. But quality may be low, and one or two crops may be a total loss unless steps are taken to eliminate garden pests. Uncontrolled pests are always a hazard; they are particularly serious in that they may breed and accumulate in the soil, getting worse each year.

To most gardeners, pest control means only the occasional application of sprays and dusts. But actually this method is effective for only a small proportion of plant ailments. Root and stem troubles and many leaf spots are not touched by chemical treatment. A good gardener, who anticipates and outwits the pests by good planning, will use a variety of preventive measures.

#### ATTACK RATE

The following crops are seldom attacked, though trouble may appear

in a few localities, and in certain years:

Artichokes	Peppers
Beets <sup>1</sup>	Rhubarb
Carrots	Salsify (Oyster plant)
Chard <sup>1</sup>	Sorrel
Chicory	Spinach (Spring crop) <sup>1</sup>
Midseason sweet corn	New Zealand Spinach
Dandelion	Strawberries
Dill	Sweet Potatoes
Endive	Turnips
Lettuce	
Parsley	
Parsnips	

Crops with easily controlled pests:

Beans Early potatoes

Crops with pests hard to control (Some of the pests mentioned below may never appear in your particular garden.):

Cabbage, cauliflower, broccoli,

<sup>1</sup> Seed should be treated before planting.

*Brussels sprouts:* cabbage maggots early in the season; later, cabbage worms and often aphids, club root, black leg and black rot.

*Celery:* serious leaf diseases.

*Early and late sweet corn:* European corn borer.

*Cucurbits* (cucumbers, melons, squash): cucumber beetle, squash vine borer, squash bug, and many diseases.

*Okra:* Japanese beetle in some areas.

*Onions* (especially when grown from seed): pink root, smut disease and thrips.

*Peas:* root rot and sometimes aphids.

*Late potatoes:* leaf hoppers, flea beetles, tip burn, late blight, bird's-eye leaf spot.

*Radishes,* early crop: cabbage maggot.

*Soy beans:* Japanese beetles.

*Tomatoes:* defoliating leaf diseases, which make the fruit insipid. Leaf curl is the result of unbalanced growth and is not very harmful. Blossom-end rot of tomato fruit is caused by the lack of sufficient sustained moisture to support the leafy growth, which then draws moisture from the fruit.

#### OUTWITTING THE PESTS

As the first step in your pest-prevention campaign, sow treated seed and—when necessary—use resistant varieties. If you can't buy treated seed you should learn to treat it yourself. (For methods, see the *Reports*, March 1945.) Resistant varieties are often not the best for eating; but if the particular disease concerned is serious in your locality, eating quality must be sacrificed for survival. Since varieties are bred for resistance to specific diseases, no one variety can be expected to resist all pests; make sure that any disease-resistant variety you buy is intended to meet the particular trouble from which your own crops of that vegetable are likely to suffer.

**ADJUSTING PLANTING DATES:** You can avoid lots of trouble if you time your planting correctly. At least plan to have your extra-large canning crops miss their worst enemies. For the exact planting dates in your locality consult your own State authorities. Dates given below are approximate, for the Northeast:

*Beans* (bush snap varieties): Those planted between June 1st and



*Use the right insecticide for the right insect. One bug's poison may be another's filet mignon.*

June 25th usually escape serious damage from the Mexican bean-beetle and the seed corn maggot, which shreds germinating seeds.

*Beets:* If the seed corn maggot destroyed early-planted seeds, sow again after June 1st, to escape them.

*Cabbage:* Set in June to avoid maggots, which eat the roots.

*Carrots:* Set in June to avoid rust fly, the larvae of which tunnel the roots.

*Sweet Corn:* Plant in late May or early June to escape most of the corn borers. After June 1st, the seed corn maggot is through.

*Cucurbits*, such as melons, cucumbers and squash: Plant in June to minimize damage from wilt and the striped cucumber beetle. Later diseases may make some trouble, but they are not likely to spoil the whole crop.

*Peas:* Those planted earliest usually mature before root rot and mosaic ruin the vines.

*Potatoes:* An early variety (Irish Cobbler), planted as early as possible, usually matures before leaf hopper and tip burn arrive.

*Summer Squash:* A July-planted second crop will bear after vine borers, foot rot and wilts may have killed the early planting.

*Winter Squash:* Plant after June

1st to escape the seed corn maggot.

*Tomatoes:* The defoliation disease that causes orange-colored, insipid fruits can be defeated by planting three crops in succession, the last from seed sown in the field the first of June.

**ROTATION OF CROP FAMILIES:** Crop diseases may infect the soil, where they often lie in wait for the return of the same or related vegetables. Therefore many crops should not be planted in the same place for two consecutive years, and preferably not until three or four years have elapsed. (Garden records are necessary for planning rotations.) This applies to plant families as well as individual crops. The families concerned are:

*The cucurbits* (melons, cucumbers, squash).

*The cole, or cabbage family* (cabbage, cauliflower, Brussels sprouts, kohlrabi, broccoli, radishes, turnips).

*The tomato family* (tomatoes, eggplants, peppers).

In very small gardens real rotation is difficult, but running the rows at right angles to their direction of the year before is a help.

**AVOID DEEP PLANTING OF SEEDS,** especially in heavy soil; and break the crust around sprouting plants of cucumbers, squash and melon to hasten emergence and to prevent damping off.

**PROTECT AGAINST CUTWORMS,** which are busy until mid-June. Tomato, pepper, cabbage and lettuce plants are their favorite food. If you have only a few plants, wrap stiff paper collars around the stems, letting them extend one inch into the soil and two inches above. Homemade bait (see the *Reports*, March 1945) scattered along the rows at dusk immediately after setting out plants or as seedlings emerge, is the best means of protecting large numbers of plants. Since there are three waves of cutworms, treatment has to be repeated.

**PAPER DISKS FOR CABBAGE PLANTS:** It is easy to protect a few plants from cabbage maggot by putting a very tight-fitting tar paper disk around each plant immediately after setting. These can be homemade or purchased in horticultural supply stores. Weight the disks with a little dirt so that they are tight against the soil, and leave them in place until after June 1st.

**KEEP THE PLANTS GROWING WITHOUT A**

**CHECK**, for a vigorously growing plant resists many troubles. This involves thorough soaking (not sprinkling) during dry spells, shallow cultivation to keep the weeds down, mulching as much of the garden as possible (especially around tomatoes), and sometimes the application of side-dressings of liquid or dry fertilizer if the plants are growing too slowly. (Applying fertilizer in liquid form is said to be a good control for blossom-end rot of tomatoes.) But don't feed plants which are growing well; they may be injured by over-feeding. Wilt diseases of tomatoes, cucurbits, eggplant and cabbage; pea root rot and blossom-end rot of tomatoes are all most destructive in dry periods; intelligent watering helps control these diseases.

**GARDEN SANITATION:** Get rid of weeds, both inside and outside of the garden, and you will destroy the safe refuge of many pests that live on weeds and spread from them to the crops. Interest your neighbors in the project too, for the pests on their weeds will move over into your garden. Don't leave trash piles around. Gather up all plant debris after each crop is through, and clean up thoroughly at the end of the season. Burn badly infected material at once. A properly managed compost pile kills the spores of disease as well as weed seeds, but carelessly made

and neglected compost is a source of infection if diseased material was used. To prevent anthracnose, prune out and burn old fruiting canes of raspberry and dewberry immediately after harvest.

**GET RID OF ANT NESTS IN THE GARDEN.** Use bait preparations for nests close to plants, Cyanogas where there is no danger of hurting plant roots. Ant tunnels cause rapid drying of the soil, and the aphids which the ants place on roots cause severe injury and sometimes death to the plant host.

**NO SMOKING!** To avoid inoculating tomatoes and peppers with the tobacco mosaic disease, which is not killed by the curing process, smokers should wash their hands thoroughly before touching the plants.

**DON'T BRUSH AGAINST WET FOLIAGE.** Since fungi and bacteria spread with moisture, don't help them by picking or cultivating vegetables when the foliage is wet with rain or dew. This applies especially to beans, tomatoes, cucurbits, eggplants and strawberries.

**SHADING** tomato plants with coarse cheesecloth from June to September will greatly reduce damage from the defoliation disease (bird's-eye leaf spot) of tomatoes. Spraying or dusting is not very effective against this disease.

#### **PREVENTIVE MEASURES AREN'T ENOUGH**

Preventive measures, as outlined above, will eliminate or greatly reduce the hazard from many pests, but they can't do the whole job. Some insects and diseases must be expected, despite carefully followed plans for prevention. However, if the gardener is ready and alert to discover and deal with them at the very start of an attack, they can usually be kept from doing severe damage.

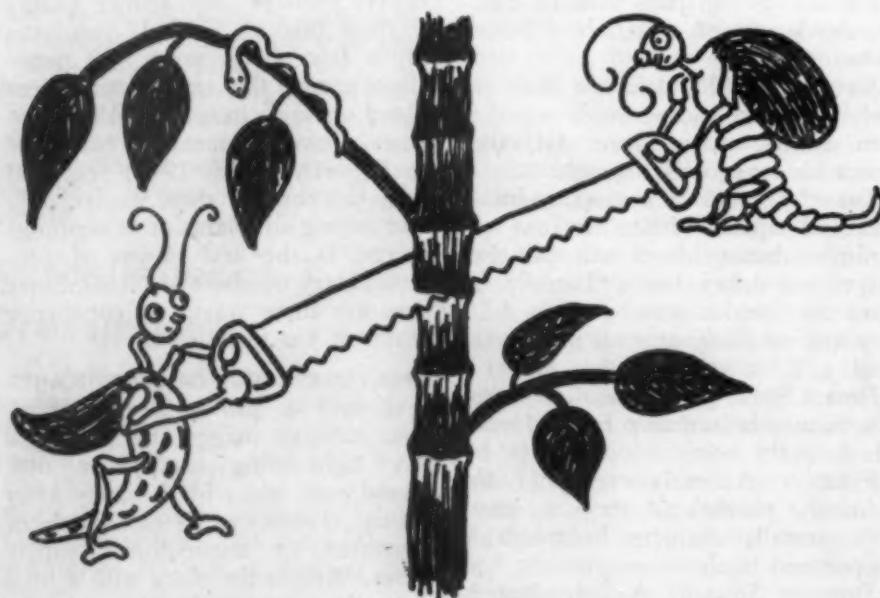
Be prepared with spraying and dusting equipment in good working order and with information about the control of specific pests. For this get the latest revised bulletin on pest control from your State agricultural college. If your own State bulletin is one of the few that recommend lead and calcium arsenates, with little regard for the dangers of poisonous residues (on cabbage, for example), send for the pest control bulletins of nearby States, in which the agricultural college staffs may feel more responsibility for the public welfare. Use your own State bulletin for the timing, but substitute rotenone for arsenicals, cryolite or barium fluosilicate (*Dutox*) on leafy vegetables or on any part which is to be eaten. A 0.75% rotenone dust or a rotenone spray of the right concentration is just as fatal (to the same vegetable insects) as arsenicals, cryolite, or barium fluosilicate. Rotenone is harmless to human beings, while the other insecticides are injurious.

Books and USDA bulletins, often excellent for illustrations of pests and for general discussion, cannot take local conditions into account; nor are they as specific as State publications.

#### **VIGILANCE PAYS**

Examine your plants often for eggs, insects and signs of disease, and be sure to look on the undersides of the leaves. If you don't, you may have a severe infestation before you know it. If you can't tell what ails a plant, even with the help of books and bulletins, refer to an authority (County Agent, State College, or Victory Garden Committee expert).

In a small planting you can crush egg clusters with your fingers, brush insects into a can of water plus a few drops of kerosene, and hand-pick and burn diseased foliage at the very start



*Get them while they're young. As bugs grow older, it becomes harder and harder to destroy them before they've made serious inroads into your plantings.*

of trouble. Any badly diseased or dead plants should be pulled up and burned without delay. When removing mosaic-infected raspberries or other plants, be careful not to shake off the aphids, because they spread the virus disease. And dig out every bit of the raspberry roots, because the new sprouts will be diseased, too. Whatever means you use, exterminate the insects when they are young and easily killed; and check disease before it gets established.

Learn when to expect each pest. For this your State pest control bulletin will be helpful. One of the rewards of keeping a garden diary is that you can refer to it each year for the arrival dates of different insects and diseases. Any given pest shows up in your garden at about the same time each year. This fact enables you to use the correct measures to protect susceptible plants *before* the onslaught of a specific disease, thus defeating it utterly. Since the effectiveness of control measures often depends on exact timing in relation to the life history of the insect or the disease, recommendations of local experiment stations should be followed exactly.

#### CHEMICAL METHODS

Spraying and dusting must be thorough as well as prompt and well timed. Dusting is best done in the early morning or late evening, when the air is still and the foliage damp. Nicotine dust is an exception; it should be applied during the heat of the day. Nicotine is most efficient in warm weather at temperatures above 70°. When dusting single plants with a scarce material, such as rotenone, you can economize by covering the plant with a carton and blowing the dust into that. To avoid waste, never fill your dust gun more than half full.

Sprays should be applied when the foliage is dry. A fine mist is needed, not a drenching, but be thorough in your coverage. However, if the pest is one that feeds only on the undersides of the leaves it is wasteful to apply poison to the upper sides too.

Don't use too much spreader in sprays (e.g. soap in *Black Leaf 40*), because it causes excessive run-off. But be sure to use a spreader where it is needed.

A repeat spraying or dusting may be necessary within two or three days

after the first treatment to finish off an insect pest. When applying fungicides, cover the whole plant with a protective film and renew it as soon as it wears off. Since rain spreads disease, apply fungicides before a rain and repeat afterwards if the fungicide is washed off. Remember, plant diseases must be *prevented*; almost without exception they cannot be *cured*, although their spread can usually be checked.

Use the right kind of spray or dust for each pest. Fungicides do not kill insects, nor do insecticides prevent disease; and an aphicide like *Black Leaf 40* will not kill beetles and worms. The present "all purpose" copper-rotenone dusts do not contain enough rotenone to kill resistant insects; those containing arsenicals are not only unsafe because they leave poisonous residue but they may also be injurious to some kinds of plants. The gardener must know his stuff nowadays; he cannot depend on some "kill-'em-all" spray or dust to do his thinking for him.

#### PRECAUTIONS IN USING INSECTICIDES AND FUNGICIDES

**INJURY TO THE PLANTS:** Insecticides and fungicides are never beneficial in themselves. In fact, they may easily injure the plant, especially if they are improperly prepared and applied. Sometimes the margin of safety between the dose that will kill the pest and the plant's tolerance to the insecticide or fungicide is very narrow indeed. You should, therefore, follow directions exactly in measuring, mixing and applying sprays.

Some plants are more tolerant than others. For example, beans are very easily damaged by arsenicals, but potatoes can stand large doses without injury. Sulphur, either as a dust or a spray, is particularly harmful to the foliage of squash, melon and cucumber, and to raspberry fruit; it is likely to burn many kinds of vegetables when used during or preceding extremely hot weather. For this reason sprays or dusts containing sulphur are not recommended for general use on vegetables. Many plants will not tolerate oil sprays, especially when repeated applications are necessary. Barium fluosilicate (*Dutox*) is also injurious to many plants. Corn is very sensitive to cryolite and other flourine compounds. Soap sprays at high concentrations



will injure the tender foliage of seedling cabbage and cauliflower, peas and young beans. Household soaps, flakes or beads of any kind, used as spreaders with arsenicals, are sure to burn foliage. Young tomatoes and cucurbits are injured by sprays or dusts containing lime (e.g. bordeaux, copper-lime dust).

Only rotenone, pyrethrum and nicotine are safe to use on all kinds of plants at recommended concentrations.

**INJURY TO PERSONS:** Most chemicals used in sprays, dusts and baits are poisonous to humans and animals, and should be handled accordingly. Take extreme care to keep the materials out of the mouth and eyes, and wash the face and hands thoroughly after using poisonous materials. Left-over poisonous sprays should be buried a foot deep at a safe distance from plant roots. Containers, clearly marked with the word "poison" and the date of purchase, should be kept tightly closed and out of the reach of children. Empty containers should be burned or buried—never left where children or animals can get at them.

Spray residues cannot be removed satisfactorily from cabbage, lettuce, celery, spinach, cauliflower, turnip greens, kale, broccoli or other greens by ordinary washing. The residues remain among the folds or ribs. Beans are very hard to wash clean, too. Dusts do not stick as tightly as sprays, but whether you spray or dust, *don't use poisonous materials on any part which is to be eaten*. An exception is nicotine, which loses its

poisonous character in a week or less. Most State bulletins are careful to make recommendations with these points in mind, but a few (e.g. Indiana Extension Bulletin 186, *Fighting Insects in the Vegetable Garden*) ignore the dangers of spray residues and go so far as to advocate the use of lead arsenate on leafy vegetables. The Indiana bulletin prescribes lead arsenate for cabbage until the head is four inches in diameter! Indiana gardeners should complain about this.

#### SUBSTITUTES FOR SCARCE EQUIPMENT

Ideally, the home gardener should have both a sprayer and a duster for use with the following materials:

1. A 40% solution of nicotine sulphate (Black Leaf 40 is best). For such soft-bodied sucking insects as aphids, leaf-hoppers, young plant bugs, etc.

2. A 0.75% rotenone dust or a pyrethrum dust containing at least 0.3% pyrethrins, but no sulphur. For chewing insects like beetles, worms, etc. on leafy vegetables or parts which are to be eaten.

3. Kryocide or Alorco spray, or a cryolite dust without sulphur. For beetles, worms, etc. on parts which are not to be eaten.

4. A neutral or fixed copper dust (Yellow Copper Oxide). For vegetable diseases.

With nicotine, pyrethrum, rotenone and equipment scarce, however, it may be necessary to use the following substitutes:

1. For 40% nicotine sulphate: DX Nicotine (spray), nicotine dust (fresh), Lethane B-72 (dust), soap

spray. But not Lethane B-71 (spray).

3. For cryolite spray or dust without sulphur: Homemade cryolite dust. One part Alorco or Kryocide and two parts talc shaken in a box with a pebble. (It is hard to make an even mixture.)

#### Nicotine

Nicotine is the standard contact poison for the control of soft-bodied sucking insects such as plant lice, leaf-hoppers and young plant bugs. The supply is critically short this year. For a sprayer, try to buy a 40% nicotine sulphate (Black Leaf 40 preferred). Other nicotine sprays are less efficient. Nicotine is most effective at temperatures over 70°.

#### BEST BUY

Black Leaf 40. The most reliable 40% nicotine sulphate. Must always be used with pure soap (without builder) as a spreader and activator. (Use three tablespoons of flakes or granules per gallon of water. Add the nicotine last.)

#### ACCEPTABLE

N.P.C. and other 40% nicotine sulphates. Not quite as efficient as Black Leaf 40. Always use with soap, as directed above.

DX Nicotine. Comparatively expensive. Next choice to 40% nicotine sulphates. Needs no added spreader.

Nicotine Dust (not Tobacco Dust, which is not intended for dusting). Effective in hot weather. Since it quickly loses strength when the package is opened, buy fresh dust in small quantities and transfer to a tight jar or can.

Black Leaf 155. A fixed nicotine or nicotine-bentonite combination which releases the nicotine very slowly. Used at two tablespoons per gallon against corn borer and codling moth on fruit.

#### Soap Sprays

Soap used alone is not as efficient a contact spray as nicotine, and it is much more limited in its uses. It can, however, be used as an aphicide (to kill plant lice). The amount of soap required depends somewhat on water hardness. Amounts given below are standard.

#### ACCEPTABLE

Fish Oil Soap. One rounded tablespoon per quart. Also used as an activator with 40% nicotine sulphate.

Pure Soap Flakes or Granules (without builder). Two tablespoons per quart of water may be used in an emergency. Not as good as Fish Oil Soap.

Imp Soap. Use according to manufacturer's directions.

#### Thiocyanates

##### ACCEPTABLE

Lethane B-72, a dust, used as a substitute for nicotine dust. Farmers' cooperatives like Eastern States have it in 5-lb. bags. There may be other sources.

Other thiocyanates (Lethane, Loro and Thanite) are not recommended. Lethane and Thanite are used as boosters for rotenone; Lethane and Loro are used by themselves as insecticides.

#### Pyrethrum

Pyrethrum is a contact poison which kills by paralysis. It kills a great variety of insects (including beetles), and is quicker to take effect than rotenone, for which it generally can be substituted. It must be fresh to be effective. Some pyrethrum has been released this year for civilian use. Most of this will go to farmers, but home gardeners may get some, perhaps in "all purpose" mixed dusts containing neutral copper, rotenone and/or cryolite as well as pyrethrum. Do not buy mixed dusts containing cryolite (poison) for use on vegetables. Rotenone sprays may contain some pyrethrum, too. Read labels carefully. Pyrethrum sprays such as Evergreen are likely to be better buys than pyrethrum dusts which may contain too little of the killing agent. A pyrethrum dust should contain at least 0.3% pyrethrins, and no sulphur. Since no pyrethrum products are available for Victory gardeners at present, watch for pyrethrum which may reach the market, and read labels carefully before using it.

#### Rotenone

Rotenone is both a contact and a stomach poison for almost any insect, and is non-poisonous to humans. It kills by paralysis. It may take up to 48 hours to become effective, but it retains its effectiveness as a stomach poison for three or four days after application. It will keep a long time if stored in an air-tight container away from light. But the wartime supply is so short that most rotenone dusts have been made with too little rotenone (0.5%), and heavier applications do not increase the efficacy. A few manufacturers have concluded, as have experiment stations, that this amounts to throwing away the rotenone. Therefore they will probably make less dust this year, but what they make will contain 0.75% rotenone. Most of this will go to farmers. Meanwhile, most rotenone dusts intended for home gardeners will be old stock containing only 0.5% rotenone, and the following ratings are based on current analyses. Read all labels carefully. Reject any that do not clearly state the rotenone content; reject those with only 0.5% rotenone; and for use on vegetables reject



any containing sulphur. If you can't buy an 0.75% dust, use a rotenone spray, or a pyrethrum spray, if any are available.

#### BEST BUYS

NNOR Garden Spray. 6 oz., \$1; 1 pt., \$2.15.

Cubor 75 Dust (Chipman Chemical Co., Bound Brook, N.J.).

#### ACCEPTABLE

Greentox. 6 oz., \$1; 1 pt., \$2. Not as concentrated as NNOR.

DX Rotenone. 8 oz., \$1.25.

Rotene Spray. 4 oz., \$1; 1 pt., \$2.50.

Red Arrow. 4 oz., \$1; 1 pt., \$2.85.

Rotofume. 1 pt., 85¢; 1 qt., \$1.50. Very low concentration.

#### NOT ACCEPTABLE

Rototec Garden Spray. Contains Phenothioxin, a synthetic sulphur compound. Would be satisfactory for a flower garden.

Hortex. A sulphur-rotenone dust.

Sulrote. A sulphur-rotenone dust.

Any rotenone dust containing less than 0.75% rotenone. (This probably means most of the rotenone dusts offered to home gardeners.)

## Corn Ear Worm Oils

These are the most efficient remedy for corn ear worm, but they will not effect an absolute cure. They can be applied with a medicine dropper, oil can, or (best) a special applicator; but avoid an overdose, which injures the corn. Dichloro-ethyl ether or pyrethrum is the active ingredient in the commercial oils.

#### ACCEPTABLE

The following are about equally effective:

Cornex.

Cornfume.

Corntrol.

Ogden Ear Worm Drops.

Not as effective as the above:

Plain white mineral oil.

## Dinitro Compounds

For spraying (or sometimes dusting) fruits; very efficient when combined with water or (for certain insects) with oil, for dormant use. With oils they make "all-round" dormant sprays. They stain woolen materials permanently, but can be removed from cotton and painted surfaces by washing.

#### ACCEPTABLE

Elgetol (Standard Agricultural Chemicals, Inc., Hoboken, N.J.). A thin paste used with water or oil as a dormant spray. Stains worse than the others.

Dinitro Spray Powder (Chipman Chem-

ical Co., Inc.). For use with water or oil; dormant.

D-N-Oil (Dow Chemical Co., Midland, Mich.). For use with oil; dormant.

D-N-Dry Mix (Dow Chemical Co.). For use with water or oil; dormant.

D-N 111 (Dow Chemical Co.). For use in Summer, with water, as a spray for red mite.

D-N 4 (Dow Chemical Co.). For use in Summer, as a dust, to control red mite.

Dinitrol (Sherwin Williams Co., Cleveland). A powder for use with oil; dormant.

## Miscible Oils & Emulsions

These are effective in the dormant season against red-mite eggs and to a lesser degree against scale insects, but not against aphid eggs. Manufacturer's directions must be followed exactly, to avoid injury. Buy on a price basis.

#### ACCEPTABLE

Sunoco Oil Spray. Good quality, low price.

Scalex.

Scalecide.

Dendrol.

Kleenup.

Free-Mulsion.

## Stomach Poisons & Baits

All stomach poisons except rotenone are poisonous to human beings and should never be used on edible parts of any plant. The most effective baits are deadly. Use extreme care in handling and storing, and keep children and animals out of the garden when these poisons are being used.

#### BEST BUY

Homemade Paris Green Bait, for cutworms. This is more efficient than commercial cutworm baits, and is not attractive to birds. (See the Reports, March 1945.)

#### ACCEPTABLE

Ant X Jelly, Magikil Ant Jelly. Both made with thallium sulphate. Very poisonous, very efficient.

Antube, Tat, made with sodium arsenite. Not so deadly as thallium baits, but ants realize their poisonous character after a time and stop feeding.

Kryocide, Alorco. Cryolite for sprays. May be mixed with double the weight of talc, to make a dust. Very limited use.

Cryolite dusts. Acceptable only if not combined with sulphur. Limited use. Read labels.

#### NOT ACCEPTABLE

Antrol, Snarol, Go-West. Baits. Inefficient.

Antzix Ant Syrup. Thallium sulphate.

When used in the original bottle, not as efficient as the thallium jellies. Too dangerous to handle in filling traps.

Hellebore. Inefficient, except against currant worms.

Dutox. Barium fluosilicate spray. Poisonous, and too limited in its use.

Lead, magnesium and calcium arsenates. Very poisonous.

Most commercial cryolite dusts. Contain sulphur.

## Copper Fungicides

For vegetable diseases generally, copper is safer and much more effective than sulphur. Copper is slightly poisonous; therefore, wash carefully vegetables on which it has been used. Wash sprayers and empty dusters after each use. Bordeaux and copper-lime dust, although perhaps the most effective fungicides, are injurious to vine crops and, under some conditions, to tomatoes.

#### Neutral or Fixed Coppers

Neutral or fixed coppers in sprays are nearly as effective as homemade Bordeaux, safer for foliage and easier to mix. As dusts they are more convenient but not quite as efficient as when used for sprays. They are generally safer to use than copper-lime dusts. There are several kinds of fixed coppers:

#### Cuprous Oxide Dusts, (85% copper)

(Seed treatments, limited use.)

#### HIGHEST QUALITY

Cuprocide.

Cuprous Oxide.

#### ACCEPTABLE

Copper Oxide Red.

Metrox.

#### NOT ACCEPTABLE

Redoxide.

## Neutral Coppers for Sprays and Dusts

#### ACCEPTABLE

Basi-Cop. Tri-basic copper sulphate, for sprays.

Basi-Cop Dusts. Four special-purpose combinations. Made from Basi-Cop, above.

Copper Compound A. 44% copper oxychloride sulphate, for sprays.

Cupro-K. 25% copper oxychloride sulphate, for sprays.

Cuprocide 54. Yellow copper oxide, for sprays.

**Yellow Copper Oxide Dust.** Made from Cuprocide 54, above.

### Bordeaux and Copper-Lime Dust

(The lime content of these materials makes them injurious to young tomato plants and cucurbits.)

#### BEST BUY

**Homemade Bordeaux** (more efficient than ready-made Bordeaux powders and indispensable for some purposes). The spray is made by different formulas according to the need, but this is a standard 4-4-50 recipe: Dissolve 5 level tablespoons of powdered copper sulphate in a little water; stir 7 level tablespoons of fresh hydrated spray lime in a little water; combine and add water to make one gallon. Use at once. Throw away surplus spray.

#### ACCEPTABLE

**Dry Bordeaux Powders.** Buy on a price basis: Acme Bordeaux, Bordow, Bowker's Bordeaux, Copper Hydro Bordo, Corona Bordeaux Mixture, Fungi-Bordo, Mechling's Bordeaux Mixture, Oxo-Bordeaux.

**Copper-Lime Dust 20-80.** For potatoes and small fruits; not as efficient as Bordeaux spray.

### Insecticide-Fungicide Mixtures

Most insecticide-fungicide mixtures are not acceptable for general use. The copper-rotenone dusts have been made with too little rotenone (0.5%), and others contain arsenicals (e.g. Nicotine-Pyrox). There is a possibility, however, that some mixed dusts will be made containing copper, and some combination of pyrethrum, rotenone and possibly cryolite. None of these new dusts are on the market at present, but if they appear, read labels carefully, and reject any product containing cryolite. Don't try to mix a 0.75% rotenone dust with a neutral copper dust; in such a mixture both active ingredients are too weak to be effective.

### Spraying & Dusting Equipment

There are very few sprayers and dusters on the market now, and the consumer must often take what he can get. Therefore, if you have a sprayer or duster which once was good, see if it can be repaired before trying to buy a new one.

Your old sprayer may need only to have sticky valves cleaned with a little kerosene, or to have the old leather plunger replaced. These plungers last

longer if they are oiled after each use. The plunger washer of a hand dust gun doesn't need oiling. Sprayers last longer if they are washed and dried thoroughly. Run water through the nozzle for a few minutes to clean out spray residue after each spraying. Empty a metal duster each time you use it, since dusts often corrode metal.

Gardeners are sometimes advised to change the standard hollow-cone spray of a compressed air sprayer to a solid cone by drilling a hole through the whirl plate inside the nozzle. But the solid-cone spray wastes spray material, and is required only for special purposes. Whatever the size or type, a sprayer should deliver a continuous, misty spray. Don't fill the sprayer too full. To avoid waste, fill plunger dusters no more than half full. Compressed-air sprayers work best when they are only two-thirds full. A sprayer should not leak anywhere. Try small sprayers with water before buying.

#### ACCEPTABLE

**Plunger-type dust guns.** Those made with extensions having tips shaped to blow the dust up onto the undersides of the leaves are the most convenient type (e.g. Feeny, Hudson, Sawco Dust Gun). But without such a tip the dust can be bounced against the undersides of the leaves of low-growing plants by blowing it hard against the ground underneath. Don't buy very small sizes; they wear out rapidly.

**Dust guns mounted on a glass jar.** Not as convenient as the plunger type, but useful for bouncing the dust.

**Bellows dusters** with metal dust chamber mounted on the spout, and a fan-shaped tip (e.g. Woodason's) are the best of this rather inefficient type, but expensive. Dusters having a jar mounted on the bellows (e.g. the Gilcroft bellows) are less expensive but rather awkward. The Centrobellows —V, which is operated with one hand, is cheapest, least durable and least convenient.

**A Cheesecloth duster** made with 8 thicknesses of cheesecloth. Relatively inefficient, but better than nothing. If you jerk it vigorously, down and up, some dust will reach the undersides of the leaves. Much less wasteful than dusters with fewer layers of cloth.

**Open top compressed-air sprayers,** three to four gallons: Smith Banner, Brown Open Hed (probably best). A compressed-air sprayer should have a plunger that reaches at least  $\frac{3}{4}$  the depth of the tank. Unscrew it and take it out to make sure that it is long enough. Short plungers make hard work. For ease in cleaning, a 4- or 5-inch diameter opening is very desirable. Since this type has no agitators, it must be shaken continually to

prevent settling of suspension (not solution) sprays.

**The Harco Sprayer,** 1 qt. The best small sprayer for reaching the undersides of the leaves, though the motion of flexing the hand to operate it is tiring when long-continued.

**Compressed-air tank sprayers,** 1 qt., mounted on a glass jar or metal tank. These are not too good for reaching the undersides of the leaves of low-growing plants, because the container gets in the way. Of these, the Smith Blizzard and the Sawco Compressed-Air Sprayer are perhaps the best. Such sprayers should have interchangeable or swivel nozzles. Try a hand sprayer with water before you buy it. It should not leak anywhere, and the spray should be continuous.

#### NOT ACCEPTABLE

Most small hand sprayers are not continuous, and leak soon.

**Stirrup pumps and fire-fighter sprayers.** Not suitable for garden use.

**Hose Sprayers** (e.g. Antipestic, Arnold, Insectogun, Hayes Ette). Inefficient, inaccurate, not for general use.

**Shaker-can dusters, or sifter-top packages of dust.** Some good dusts are sold in shaker-top cans, but don't use them from the can. Transfer contents to a duster and do a better, more economical job.

### Watch for . . .

Work on the following reports, among others, is either now under way or scheduled to begin soon:

Summer Motor Oils

Sewing Threads

Household Oils

Tomato Catsup

Cocoa

Household Bleach and Ammonia

"Thermos" Bottles

Leg Cosmetics

Sunburn Preventives

Mineral Oil

Cigarette Rollers



# CLEANING HOUSE

*... some notes on improved techniques*

Just as the "batch process" production technique has given way to belt-line production in many modern industrial plants, so modern housekeepers are veering away from the periodic upheaval of "Spring house-cleaning," and substituting for it a "continuous" technique, based on the principle that systematic prevention of dirt-accumulation is much better than periodic cure—and on the whole, much pleasanter to follow.

The contributions of modern equipment to the ease and thoroughness of housecleaning cannot be overestimated. But the evolutionary process is not yet complete. Unquestionably the air-conditioned house of the future will be easier to keep clean than the home of today. But meanwhile women are learning to become better homemakers and at the same time finding time for more interests and activities outside their homes, without waiting for post-war industry to perform miracles for them. With the equipment at hand they are learning to reduce the time and energy required to keep their homes pleasantly and healthfully clean.

#### A CLEANING SCHEDULE

Frequent, systematic, light cleaning has many advantages over periodic upheaval. It enables the housekeeper to budget her time, setting aside only a little time each day for

the tasks to be done. It keeps the house looking bright and clean all the time, so that it never acquires the hang-dog air typical of the house waiting to be cleaned "thoroughly." And it's far easier on household surfaces, for dirt allowed to accumulate demands the use of harsh abrasives for removal, and too often paint and varnish are apt to come off with the accumulated grime.

Good intentions are best realized if a work schedule is drawn up, listing all the tasks to be done during the year. These should be grouped under headings of work to be done daily, weekly, monthly, semi-annually and annually. Of course such schedules will vary, depending upon differences in living and dirt-producing conditions; but their general outlines will be similar. You may, for instance, be able to budget your time so that you can spread the weekly chores among the different days of the week. Or you may, if you have a job that keeps you busy during the week, have to pile up most of the weekly cleaning for the week-end. But within the limits of your available time, it's a good idea to spread the household tasks as much as possible; otherwise, you may end up with the old batch-type cleaning methods.

**DAILY:** Dust furniture and floors; brush upholstered furniture; empty waste baskets; use carpet sweeper on

rugs; wash bathroom fixtures and floor; clean sink and stove surfaces after each use.

**WEEKLY:** Vacuum rugs, moving furniture to clean under and behind it; dust radiators, woodwork, pictures, mirrors, lighting fixtures and bulbs; brush outside window sills, shades, and venetian blinds; clean stove (burners and oven) and refrigerator; polish silver and other metals.

**MONTHLY:** Do one or more of the following special jobs in several rooms on the same day: Brush (or wash when necessary) curtains, draperies, walls, and wood trim; wipe pictures; wipe or wash windows; clean box springs and mattresses; vacuum underside of rug and floor beneath it; clean closets and drawers; polish wood furniture; clean upholstered furniture where soiled.

**SEMI-ANNUALLY:** Take inventory; get rid of objects no longer useful. (A cluttered house is difficult to keep clean.) Inspect closets to weed out unused clothing which can be contributed to relief agencies; pack Summer or Winter clothing where it will be kept clean and free from moth damage until needed again. Label storage boxes and trunks with their contents, and keep a parallel listing in a note book. Check household appliances for safety and efficiency; have them repaired if they need it. Wash mattress covers; dry clean or wash draperies.

**ANNUALLY:** Have furnace cleaned and reconditioned in early Summer. Wash and wax furniture; shampoo rugs or have them dry cleaned.

Experience alone can tell you how often soap-and-water cleaning of woodwork will be required in your



**DAILY: empty  
waste-baskets**

locality. But wherever you live, you can lengthen the intervals. Immediately after window sills, venetian blinds, and other woodwork have been washed and allowed to dry thoroughly, apply a good, water-resistant wax to the painted surfaces. (See *Buying Guide* for wax ratings.) Surfaces protected by a coating of wax, which prevents dirt from being ground in, can be kept clean for quite long periods by dry dusting. When washing is again necessary, it can be done more easily and with less damage to the finish, since dirt will come off with the old wax instead of with part of the paint.

#### METHODS

Once your schedule is in operation, look to your methods. If study shows that you are doing things the hard way, it will pay you to change your habits. Home economists who have made time and motion studies agree that a few extra steps here, a few unnecessary motions there, add up to greatly increased fatigue at the end of the day. Watch the number of steps you take and avoid retracing them whenever you can. Combine parts of a job, such as rearranging furniture while dusting it. Continue one cleaning process until you have finished with one particular tool. For example, keep your venetian blind brush in your hand until you have dusted all the blinds in the room. Then put it away before going on to another process.

Arrange storage places conveniently and logically, so that you won't waste time looking for something when you need it. If everything is kept in its place it will be easier for you to work and easier for others to help you.

Educate your family. Even very small children can be a real help when they have learned to take care of their own possessions. They enjoy having their rooms furnished with convenient and adequate "putting away places" for their toys and books, and having clothes hooks



**WEEKLY:** wipe  
mirrors and  
pictures

and laundry bags or hampers placed within their reach.

#### TOOLS

Provide yourself with the tools you need, but avoid cluttering your cleaning closet with supplies you'll rarely use. A really good, labor-saving tool should be durable, easily cleaned, and, in general, adaptable to several kinds of work. Use long-handled tools whenever possible, to reduce fatigue resulting from stooping and bending.

If you do not have a vacuum cleaner equipped with attachments for baseboards, moldings, draperies, and upholstery, you'll need a set of brushes, some of which can be used for more than one purpose.

Most convenient for washing floors are self-wringing wet mops used with two pails, one for soapy water and one for clear water. The best dust cloths can be improvised from old pieces of soft wool; next in effectiveness are soft, knitted cottons. Both these materials will hold dust better if they are pre-treated. A simple method recommended by some experts is to put the cloth into a screw-cap glass jar which has been coated on the inside with furniture polish. (Put two tablespoons of polish into the container and turn it until a thin layer of polish covers the inside surface.) Let the cloth stand in the jar for a day or two.

Chamois and sponges are better than cloths for many jobs in the soap-and-water department. Chamois is excellent for washing glass surfaces because it cleans and polishes at the same time, without leaving lint. The quality of a chamois can be judged by its elasticity; those having the most stretch wear best and stay soft longest. A chamois should be washed in lukewarm suds after each use. Rinse thoroughly, squeeze out as much moisture as possible, and dry in the shade. Sponges—either natural or synthetic—are recommended for washing walls, woodwork, and upholstery. Wash them as you do chamois, and hang them to dry by a string threaded through at one end.

The cleaning closet should have a shelf for bottles and jars, and numerous hooks for hanging brushes, brooms, mops, dustpan and cloths. Any enclosure where cleaning materials are kept should have holes in the door to permit ventilation.

#### MONTHLY:

*dust  
behind  
furniture*



Brooms and brushes should not rest on their bristles. All equipment should be put away clean, dry, and ready for the next use. Wash dust cloths and mops after use, and dry before storing.

Keep special bathroom cleaning equipment in or near the bathroom if space permits.

#### WINDOWS, MIRRORS, GLASS SURFACES

An accumulation of dirt on and around windows where the light comes in will give an atmosphere of gloom and dinginess to an otherwise clean room. The frequency with which windows, curtains, draperies, and shades or venetian blinds must be washed depends to a great extent upon the amount and type of dirt that comes in. But in most households wiping and brushing suffice for weekly cleaning, and more drastic treatment becomes an occasional special task.

Never use soap in washing glass; it will cause streaking. If the glass is not too dirty, use clear, warm water. For very dirty glass, particularly if the dirt is oily, use dilute ammonia in the water (four tablespoons to a gallon), or one of the commercial window-cleaning solutions. Be careful not to spill solutions on window sills, as they may remove the finish.

1. If windows are very dirty, wipe first with dry paper (newspaper is good) to remove most of the dirt.
2. Dip chamois or soft cloth in warm water, and squeeze it as dry as possible. Wash the top of the window first, then the bottom.
3. If window is very dirty, rinse the chamois and wipe a second time.
4. Dry the glass with a clean dry chamois or soft cloth. Chamois is better because it leaves no lint and absorbs moisture more quickly.

#### VENETIAN BLINDS

Venetian blinds will need only occasional washing if they are dusted

regularly and frequently, either with a special brush or with a vacuum cleaner attachment.

To wash the slats, use a suds of mild, pure soap, or, if the water is hard, soap containing a soluble builder (see the *Reports*, March 1945). Drop blinds to their full length and clean a few slats at a time.

1. Wipe slats on both sides with a soft cloth or sponge wrung out of suds. Completely close slats and wipe the flat surface. Pull the cord in the other direction and wipe the other flat surface. Use water sparingly.
2. Rinse with clear water. Dry with a clean, soft cloth.
3. Allow the blinds to remain down until they are thoroughly dry. Then apply wax before adjusting to desired position.

Tapes must be removed if they are to be dry-cleaned or washed.

1. Take blinds down, untie knot in cord that runs through slats, and remove cord and tapes.
2. Measure length of tapes before washing or dry-cleaning.
3. While tapes are drying, stretch them to length as measured before washing.
4. Replace tapes on slats, put cord through slats and knot in place as before.

#### WINDOW SHADES

Window shades should be kept dust-free by regular brushing with a fairly stiff brush. In addition, they may require occasional washing or dry-cleaning. Non-washable shades may be cleaned with art gum or wall paper cleaner, or by rubbing with cornmeal. For washable shades use the following method:

1. Remove shades and unroll them on a flat surface.
2. Using a lather which is stiff enough so that the shades will not get wet through, scrub a

#### SEMI-ANNUALLY:



small section at a time with a small brush.

3. Rinse off lather as you go, using a sponge or cloth which is damp but not wet.
4. Wash both sides in this way. Do not roll shades until they are thoroughly dry.

#### DRAPERY & CURTAINS

Curtains and draperies which are not harmed by soap and water should be washed before they become too dirty, but do not attempt home laundering of lined draperies. Test colorfastness by squeezing a concealed portion of the fabric in a white bowl of lukewarm water for several minutes. If the water becomes discolored, the dye is not completely fast, and special care must be taken in washing the fabric, so that its surfaces will not touch each other or other fabrics until dry. Hang straight on line or rack, preferably in the open air, so that they will dry quickly. Do not hang in the wind or in direct sunlight.

1. Shake lightly to remove loose dust, and soak in clear, lukewarm water.
2. Wash three to five minutes in lukewarm suds of a mild soap, and rinse thoroughly in water of the same temperature.
3. Squeeze water out by hand or use a spinner or roller dryer. Wringing or twisting tends to break threads.

Rayon, net and lace should be washed in a bag. Dry net and lace on curtain stretchers, stretching according to measurements taken before washing. Roll rayon and silk materials, without first drying, in a turkish towel for about 30 minutes before ironing. Cretonne, cotton, and linen may be dampened for ironing after they have dried.

#### RUGS AND UPHOLSTERY

Regular vacuum cleaning is not enough to keep rugs and upholstery thoroughly clean and sanitary. At least once a year they should be shampooed to remove spots and stains, and greasy soil to which dirt has adhered. Valuable rugs should be sent to a reliable cleaner. Ordinary rugs can be cleaned satisfactorily at home. Use the same method for upholstered furniture.

The dry-suds method should be used on surfaces which require a minimum of wetting, as upholstery



which is not wool, or rugs whose colors may be affected by a wet cleaner.

1. Use a suds-forming, non-soap commercial rug and upholstery shampoo (see *Buying Guide*).
2. To use, dilute as directed, and beat until it forms thick suds.
3. Before rugs or upholstery are shampooed they should be thoroughly vacuumed on both the surface and the back, to remove all loose dust and grit.
4. Test suds on a portion of the rug where possible damage will be least visible, to be sure that colors will not be affected.
5. Apply suds to a small area at a time with a medium-stiff brush, using a circular motion.
6. Rinse each section with a sponge or cloth well wrung out of soft, warm water. *Do not soak rug.*
7. Wipe as dry as possible with a soft, absorbent cloth. Remove any remaining grease spots by sponging with carbon tetrachloride. (Use small amounts, and be sure windows are open.)
8. Choose a good drying day for shampooing, and bear in mind throughout the process that the back of the rug should be kept dry.

#### SLIP COVERS

Removable, washable slip covers save both time and furniture. They are easier to clean than upholstery, and they serve to protect chair fabrics from stains and sun fading. For easy removal and neat appearance slip covers should be made with long, zippered closings, if zippers are available. But slip covers must be removed and the upholstery beneath them brushed or vacuum cleaned, to remove dust which seeps through the cover material, and to prevent moth damage.

# HEALTH AND MEDICINE

HAROLD AARON, M. D., SPECIAL MEDICAL ADVISER

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CU's Medical Consultants give technical advice on matters of medicine which lie within their fields. CU is responsible for all opinions concerning social, economic and public health questions.

## INDIGESTION

*... some further notes on its causes and cures, both physical and psycho-somatic*

Nausea, heartburn, gas, cramp-like pains and loose stools, sometimes with mucus in them, are common symptoms of nervous indigestion. Disturbed emotions—whether they be conscious or unconscious—continuously send impulses to the digestive tract by way of the nerves. It may be said that the digestive system is like a sensitive reed, vibrating with every disturbance in mental life. Restraints or hates, whether manifest or repressed, may express themselves through disturbances in digestion. Doctors make use of this knowledge by giving patients with nervous indigestion or "ulcer of the stomach," drugs which tend to dam up some of the tide of nervous stimuli rushing down to the organs of digestion.

### BLOCKING THE NERVES

Atropine sulphate is one of these drugs. When given in proper doses, it helps to block impulses going down the "vagus" nerves—nerves which influence the secretion of juices within the digestive system and the rhythmic movements of the stomach and intestinal loops. Barbituric acid and other sedative drugs are also frequently used to diminish anxiety and to provide the calm essential for normal digestion.

Actually, none of these drugs can cure nervous indigestion. Unless the cause of the anxiety is removed, or the repressed anger is brought to the

surface and faced by the patient, the nervous symptoms will continue, although they may be blunted by conventional competent medical care. In other words, diet and drugs are often not enough. Psychiatric care may be required to find the cause of a group of symptoms and then to remove that cause, so that the organs can perform their normal functions.

### DISTURBANCES IN FUNCTION

Most symptoms of gastro-intestinal disease are due to disturbances in the way the muscles of the digestive system behave. Thus nausea, vomiting, cramps, diarrhea, constipation and even heartburn are symptoms of a disordered function of stomach and intestinal contractions.

Dr. Walter C. Alvarez of the Mayo Clinic has been prominent among those physicians who emphasize the importance of mechanical factors in digestive disorders. In his book, "An Introduction to Gastro-Enterology," Dr. Alvarez gives a thorough exposition of this point of view, with numerous examples from everyday practice to support it. As he puts it, "there are in the body duplicate plants or factories for chemical digestion, but only one muscular tube [the gastro-intestinal tract] for the transport of material between the plants. Naturally, when function in this tube breaks down, or when the current is slowed or

reversed, there is trouble, and the owner of the tube is promptly apprised that something unpleasant and even dangerous is going on." Thus, organic disease such as intestinal obstruction due to inflammation or tumor can cause a complete breakdown of transport. Or, the transport of foods can be affected by acute infectious disease. Thus nausea or lack of appetite are common symptoms during an attack of grippe or pneumonia. In such cases, the toxins of the acute infectious disease seem to have a direct effect on the motor mechanism of digestion. That is why such patients feel better when their diet is limited to fluids or soft, easily-digested foods that do not put an additional burden on the digestive processes.

The transport of food is even more frequently affected, however, by psychological or emotional factors. Bad news causes a loss of appetite because the psychic disturbance has affected the motor mechanism of the stomach and intestine by way of the nerves from the brain, or by way of chemical stimuli coming from the endocrine glands, or—as is usual—by both pathways. Nerve stimuli and chemical stimuli set loose by an emotional storm reach the digestive tract and cause a reversal or arrest of the normal downward movement of material through the digestive tract. It is this reversal or arrest of transport that causes lack of appetite or in its more extreme forms, nausea, vomiting, heartburn and biliousness.

One doesn't have to hear bad news to suffer from these symptoms. Chronic unhappiness or continued feelings of anxiety may be even more important causes. In "migraine" the headache is often associated with spells of nausea or vomiting. In this disorder there is no organic disease either of the brain or of the digestive tract, yet the disturbance in the function of the tract may be very severe.

### HEARTBURN

A reversal in the normal peristalsis of the esophagus, stomach and intestines causes the symptoms of heartburn and acid regurgitation. Here, too, either organic or psychological disturbances may be responsible for the symptoms. In the "morning after" feeling it is probable that both are responsible—the alcohol has irritated the stomach and started a re-

verse movement, and the mental depression that goes with the "morning after" aggravates this reversal.

As Dr. Alvarez says, "Many persons are almost certain to get a burning distress [of the stomach] if they fail to get peace and relaxation just before, during and after a meal. With these persons it is not so much *what* they eat that matters as *how* they eat it. When they rest a few minutes before the meal, then eat it in peace and with some interest and enjoyment, and then rest for a half-hour or so until digestion is properly started, they have no trouble; but when they hurry to the table, talk business, or worry about guests, and then rush back to work, they regurgitate or belch or have heartburn for the rest of the day."

At times, heartburn results from the presence in the esophagus of some irritant substance, or the regurgitation of acid juice into the lower part of the esophagus. In such cases, an "alkalizing" drink, such as bicarbonate of soda in water, may start the waves of peristalsis going in the right direction again, and thus relieve the heartburn. A swallow of a solid food may be even more effective in turning the peristaltic waves.

Ulcer of the stomach and the du-

denum are diseases in which psychic factors are considered to be very important. Many studies have been made on the personalities of ulcer patients, and on the emotional factors responsible for the recurrence of the ulcers. One of the most important of these studies was conducted by Drs. S. Wolf and H. G. Wolff of Cornell University Medical School on a man with an artificial opening in the abdominal wall, leading directly into the stomach. In childhood this patient had severely burned his esophagus with a hot liquid, and as a result, scar tissue had formed and completely closed the esophagus. A surgeon made the artificial opening connecting the cavity of the stomach with an opening in the abdominal wall, so that the patient could feed himself. For 47 years this man had fed himself by chewing his food and then spitting it into a funnel in the "gastrostomy" opening. This gave the doctors at Cornell an opportunity to observe the reactions of the stomach to nervous stimuli and to influences affecting his emotions.

#### STOMACH REACTIONS

When the man was anxious and resentful, there was increased movement of the stomach muscles and an increased acid secretion. The mucous membrane became swollen and congested. If the emotional disturbances continued, the changes in the mucous membrane continued to the point where severe small hemorrhages appeared, and the superficial lining became eaten away. If the acid juices were permitted to flow over these denuded areas, chronic ulcers would form. But when the emotional disturbances disappeared, the ulcers healed. Thus the Cornell doctors again demonstrated that anxieties and mental tensions were the first links in a chain of physiological disturbances that eventually led to organic disease—in this case, a chronic ulcer of the stomach. It is probable that in most cases the sequence of ulcer is more complicated, and that in some cases there may be other than mental causes. But the evidence from this and other work by many other investigators suggests that in peptic or stomach ulcer, psychological and personality factors play a decisive part.

More indirect evidence of this is apparent from the reported marked increase in the incidence of ulcer in the armed services and the civilian

population here, in England and in other countries. The tensions caused by war, bombing, etc., have been responsible for a great increase in other psycho-somatic disorders as well. Every system of the body can be affected by social and psychological tensions.

In previous articles we have discussed many of these system disturbances. Other examples are being observed year by year. In the respiratory system are such disorders as asthma.

The cardiovascular system has important psychological factors to contend with in such diseases as neurocirculatory asthenia, hypertension and angina pectoris. In the genito-urinary sphere, dysmenorrhea and enuresis are important symptoms of a psycho-somatic disturbance. The skin and endocrine glands are also profoundly affected by emotions as in such disorders as hives and hyperthyroidism.

#### CO-OPERATION NEEDED

To correlate the findings and observations in these fields of medicine, it is imperative to have the cooperation of general practitioners, psychiatrists and other specialists and social workers. The general practitioner no longer can adequately treat the great number of disorders afflicting mankind. He can come into his own again only if he learns to work in private practice as he does in a hospital, by association and cooperation with specialists. It is then that a real foundation for a science of psycho-somatic medicine will have been laid.

### CONSUMERS UNION

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SCU

## NEWS AND INFORMATION

### What's New?

A digest of some new products, just offered or announced for the future, of interest to consumers

#### Battery "Dopes":

Word comes through that the American Association of Battery Manufacturers has joined forces with government agencies—and Consumers Union—in warning car owners against the use of advertised "dopes" to pep up their batteries. The situation is even more serious now than it was two years ago when CU first issued its warning, since batteries are becoming increasingly scarce, and the battery "dope" racket is assuming ever greater proportions.



A battery "dope" may be made of almost anything that its hit-and-run manufacturer happens to have on hand. Flour, sand, epsom salts, or "just any old white powder" are among ingredients reported by the Battery Manufacturers' Association. None of these substances can do your battery any good; some may do permanent damage.

An important thing to consider before you give in to the eloquent sales line of the battery-dope pedlers is that most battery manufacturers void the guarantee of their batteries if anything other than distilled water

or approved electrolyte has been added.

The best way to avoid battery trouble is the old standard system:

1. Have your battery checked regularly at a reliable service station.
2. Keep your battery fully charged; never let it run down. If necessary, have the generator regulator on your car adjusted to increase the charging rate.

#### Frozen Meals:

The immediate postwar world holds a real boon for the busy housewife, food trade sources report. It's nothing less than a full, pre-cooked and frozen meal, individually packed and ready-to-serve after fifteen minutes of thawing and final cooking in a special oven. It is said that these ready-made meals are already well past the dream stage; they are being prepared and served every day on navy transport planes, and plans are in progress to convert distribution to a nation-wide consumer basis as soon as the war permits.

Typical of the frozen main courses in production for navy transport use are the following: steak, with french fried potatoes and carrots; meat loaf, candied sweet potatoes and spinach; beef stew, hot bread and asparagus; ham steak, candied sweet potatoes and green beans; veal cutlet, home



fried potatoes and peas. Each combination is packed in a three-compartment, plastic-coated paper plate with a cardboard cover. The cover is removed before the platters are set into the oven for final cooking, and the food is eaten from the plate in which it was originally packed. Navy personnel reports, according to the trade, that the food is better than that served in restaurants; reporters who were given a sample meal said that everything tasted as good as or better than most regularly prepared meals.

Postwar plans announced by the Maxson Corp., current manufacturers of the pre-cooked frozen meals, include preparation of canapes, green salads and desserts. Desserts now being made include hot mince pie, baked apple and apple pie.

It is expected that the specially-designed oven for the final cooking process will be sold, after the war, for about \$30. It will be available for use with either gas or electricity.

#### Electronics Applied:



Many persons will remember Experiment No. 1 in their high school courses in electricity: Electrically charge a hard-rubber wand by rubbing it with a piece of wool, and pick up bits of paper with the charged rod. The most recent application of the old trick is in the *Electro-Static Cleaner* (\$1.75), the "brush without bristles" that "cleans like magic . . . uses magnetic attraction to pick up dust, loose hair, fuzz and lint from your clothes and upholstery."

Offhand, it sounds like a fake. But it's not. The *Electro-Static Cleaner* is a  $3\frac{1}{4} \times 7$  inch piece of plastic. Rub it over wool, and it actually will pick up loose bits of debris and dust, probably a bit more easily and more conveniently than would a bristle brush. But its usefulness is lim-

ited. Embedded lint and long threads or hair won't yield to its attraction. Rayon and cotton fabrics won't build up the necessary electric charge, and the *Electro-Static Cleaner* won't budge even surface dust from these materials. And, of course, \$1.75 is a big price-tag to put on a few pennies' worth of plastic. For certain types of material that seem to pick up particles from an ordinary brush, however, the *Electro-Static Cleaner* does an acceptable job.

### Gauze Dish Towels:

Formerly relegated to use as a dust cloth, gauze is assuming a new position in the kitchen as a dish towel. And enthusiastic reports from users indicate that it's here to stay, even when good linen and cotton towels return at prewar prices. Housewives who have used the new gauze towels say that they have many advantages over the standard types. Chief among these is high and quick water absorption, which makes it possible to dry a dish with a whisk, rather than the continued rubbing necessary with less absorbent materials. And, though the gauze towels look flimsy, users report that they are capable of absorbing a good deal of water before they become soggy.

Currently they're priced rather high (about 20¢ for the 20 x 40 inch size), considering the material they're made of; and no information is yet available as to their durability as compared with that of ordinary dish towels. Probably they won't be as durable.

But partially offsetting this are other advantages: They're easy to wash and quick to dry. They require no ironing. They are relatively lintless, and are therefore particularly useful for drying glassware.

(Continued from page 115)

family a house, a car, all the food and clothing it needs, and all the gadgets and conveniences it wants—if the cash and the security were there to make good customers out of every American family. What happens at San Francisco, what happens in Congress, what happens everywhere that men of power are shaping the post-war economy, will determine whether we reach 40% or 90% of our possible goal. The answer depends in part on what consumers themselves do to protect their own interests in tomorrow's world. They've been learning,

in wartime, how to protect their wartime interests. They'd better start working on the peace.

### Two More Letters

Last month, CU published on the inside front cover of the Reports two letters, one from a member telling us to stick to ratings and stay away from "politics," and another from Chester Bowles, head of OPA, commending CU's aid in the fight against inflation.

Here are two more letters, commenting on last month's pair:

#### SAYS ONE:

"How in all hades any member could react to your *Bread & Butter* material is beyond me. Why, the very purpose of *Bread & Butter* as plainly printed lower down on the same inside cover page, and all of your advertising matter that I have ever seen, distinctly outlines the aims and purposes of your different mailings.

"In the name of the good Lord, tell me who is the Government but the citizenry of this country, including the narrow-head who wrote that letter? And how is "the Government" going to take care of prices and black markets *without our help*?

"Add to your testing and reporting on products as much as you wish—although your present job is eminently satisfying to me—but by all means continue to give us those 'four pages of "politics" every week,' as you are now doing in *Bread & Butter*. I want to know 'what and when to write my Congressman' and one of the best ways for you to help me is not to listen to any hunk of head-cheese.

"I am also a subscriber to a weekly letter service out of Washington, and I'm not shooting the bull when I tell you that in many respects I find *Bread & Butter* more potent than those letters."

#### SAYS THE OTHER:

"I received the April issue of the *Reports*, and noticed the 'two letters.'

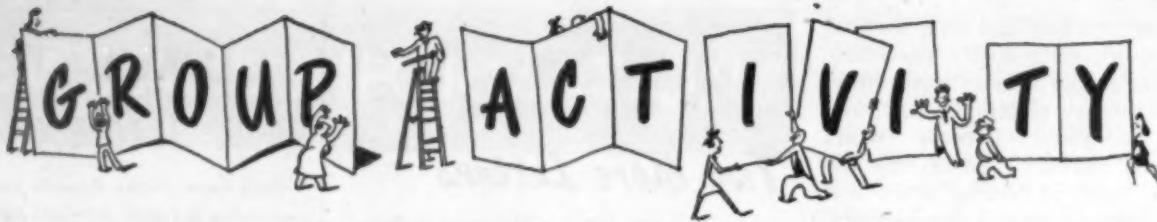
"I wish to add my approval of the letter written to you by your subscriber. I agree with his thoughts that your publication is not political, and that you should test products and leave the letter-writing to us when we see fit."

## CUMULATIVE INDEX

Each issue of the Reports contains this cumulative index of principal subjects covered since publication of the 1945 Buying Guide issue. By supplementing the Buying Guide Index with this one, members can quickly locate current material and keep abreast of changes resulting from new tests. Page numbers run consecutively beginning with the January 1945 issue Jan. 1-28; Feb. 29-56; Mar. 57-84; Apr. 85-112; May 113-130.

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FOR SCHOOLS AND YOUTH GROUPS - MENS AND WOMENS GROUPS - UNIONS AND AUXILIARIES

Susan Brothers, Group Editor

## You and Price Control

The Price Control Act is just a piece of paper! It doesn't mean much unless everyone pitches in to help make it work. Yet, although all of us are afraid of inflation, surveys show that most of us have done practically nothing to prevent it.

The manufacturers' lobbies, on the other hand, have been very active. They are blasting away, trying to weaken price control to serve their special interests. At the Congressional hearings they told our Senators and Congressmen that they were for price control, BUT—price control was too hard on their own particular industry. They pleaded that ceilings be lifted on meat, on textiles, on clothing. And the results will probably show that their efforts were not entirely in vain.

What can consumers do to see that their dollar buys a dollar's worth, to avoid the danger of inflation? What can you do without a lobby to press for the consumer's cause? You can go out and report every price violation that you see. You can help make it so hot for the Black Marketeers that they'll have to abide by price regulations, and charge no more than ceiling prices. It's not too simple—but it's a lot easier than diving into a fox-hole or fighting the Japs. You can check prices every time you shop; or at least check them frequently and regularly. And when you find violations, report them.

You should have ceiling price lists to make the job easier, lists that you can keep in your pocketbook or on your desk at home. Unfortunately the retail trade has convinced OPA that "consumers don't want price lists" and "would not use them if they had them." Consequently, OPA has not made ceiling price lists gen-

erally available to consumers, although consumer and labor groups have pleaded for them. Consumer pressure obviously isn't as strong as trade pressure!

However, many ration boards have more price lists than they need for the retail stores, and you can probably get one at your ration board if you ask the clerk for it. If you can't get your own list, as an alternative you'll have to check prices by looking at the ceiling price list which is posted in each store. If you don't know where it is, ask the sales clerk or store manager. Then when you shop, compare the selling price of four or five items with the ceiling price on the OPA price list. If you are being overcharged, report the violation immediately to your ration board. You can do it, through your club or as an individual; by mail, phone or in person. If you would rather not leave your name, you need not do so. However, even if you give your name, the board can handle the violation without revealing your identity.

*It's only by reporting violations that consumers can stop chiseling by the retailers.*

So report every violation. A penny overcharge here, and a penny there, have added up to over a billion dollars in the last year in the field of food alone. That's a lot of money—and your loss is the black market's gain. You can't expect the retailers to protect you; you must protect yourself through group or individual action.

Make your demands articulate. Let OPA and your Congressmen know you are interested. You can do it by checking prices, reporting violations, and by writing to OPA and to your

Congressmen and letting them know you want a strong price control program. And when the lobbyists press for price increases, tell Congress and OPA, "NO!"

Have you checked prices? Have you ever reported any price or rationing violation to your ration board? What happened? Write the Editor of this department, and tell her about it.

### Things to Do:



Group canning projects have been popular ever since the war started. Home canning has become important because of the need for conserving food, and group canning is often necessary because the shortage of pressure cookers makes it necessary for several families to share the use of one pressure cooker. Make canning a project, either for your group or open to the general public. This is how to start:

1. Select a group leader who is an experienced canner. If it's at all possible, get a County Home Demonstration Agent, a home economics teacher, or a dietician.

2. Select a convenient place in which to work. You may be able

to use the home economics room in a nearby school; failing that, use someone's large kitchen.

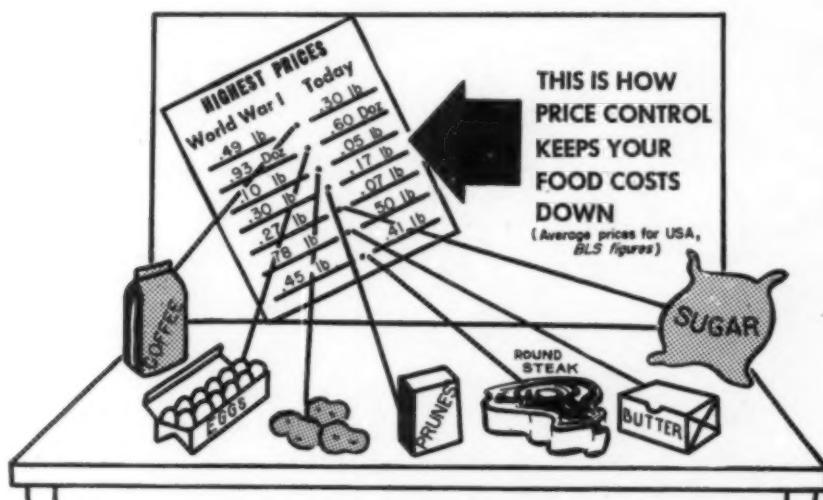
3. Have all equipment such as pressure cookers, jars, lids, rubbers, cooking utensils, etc., on hand.

4. If fruit or vegetables are to be purchased have the group pool

their buying so as to get a better price.

5. When you can, use division of labor and the belt line technique. Have one group of women preparing the vegetables, another group sterilizing, another group cooking, etc. Use only reliable recipes.

## Organized Price Checking



### YOU CAN SET UP THIS DISPLAY

Organize your group to carry out a price-checking project. Honest merchants will welcome your help; dishonest ones will be forced to accept it. Most important, if groups all over the country check prices, it will really help hold back inflation. Here's how you can proceed:

1. At a meeting of your group, have a Community Service Member or Price Panel Assistant from your local ration board as a speaker, and ask her to bring enough OPA ceiling price lists for every member of the group. If you cannot get a speaker, get the price lists from your local ration board and distribute them to your members.

2. Examine the price lists and discuss what they mean and how they should be used.

3. Have group members relate their experiences on being overcharged. If any member has reported a violation he should tell what happened.

4. If possible, provide members with a mimeographed or typewritten form which can be used for checking prices (see illustration).

5. Select five food items for your group members to check, between this meeting and the next one. For example: frankfurters, canned peas, butter, flour and eggs. Allocate the stores in your community so that you get the best possible coverage.

6. At your next meeting, have members report results of their checking: How many stores overcharged, the amounts overcharged, the results of reporting the violation to the ration board, and other relevant facts.

7. At the second meeting select five new items to be checked.

#### GROCERIES

Item	Brand	Size or Weight	Ceiling Price	Selling Price
Canned peas	Blue Boy	No. 2		
Tomato juice	Miller's	47 oz.		
Canned corn	Cove's	10½ oz.		

#### MEATS

Type (Beef, Pork, etc.)	Cut	Grade	Ceiling Price	Selling Price
Beef	Sirloin	C		
Lamb	Leg			
Pork	—	A		

Name of Store \_\_\_\_\_ Address of Store \_\_\_\_\_  
OPA Store Group Number \_\_\_\_\_ Date of Purchase \_\_\_\_\_

## PRIZE CONTEST

C. U. is sponsoring a new PRIZE CONTEST FOR STUDENTS.

The rules are simple:

Write a slogan on "Black Markets." For example: SLACQ MARKETERS MAKE BLACK MARKETS!

Address entries to Group Activity Editor, Consumers Union, 17 Union Square West, New York 3, N. Y. Give your name, age and school.

Entries must be in no later than July 15, 1945.

There will be a prize of \$10 for the best entry. The name of the winner will be announced in the July issue of *Consumer Reports*. All decisions will be final.

The contest is open to all students up to 18 years of age regardless of whether they are members of Consumers Union if there is a tie, duplicate prizes will be awarded.



Dear CU:

The San Francisco Auxiliary Council and AFL Auxiliary Council, in conjunction with OPA's Labor Advisory Officer held a Mission District Homemakers' meeting. OPA showed two films, "Know Your Meat" and "Prices Unlimited."

I made a Grocery Store Ceiling Price Display by mounting OPA Price Lists on cardboard and pasting pictures of various foods opposite the foods listed. I also made plan cards headed, "Do You Know the Ceiling Price of \_\_\_\_\_," and listed three items. We asked the women to check these items next time they shopped—selling price against ceiling price, and showed the women how to use the ceiling price lists.

The display was so successful that I am taking it to our next Auxiliary meeting.

Louise Kircher, Secretary  
California State Auxiliary  
Council, CIO.

# For the Record:

1936-7  
1938  
1939  
1940  
**1941**  
**1942**  
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